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LAUNDERING

BY

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INSTRUCTOR OF LAUNDERING

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

NEW YORK CITY

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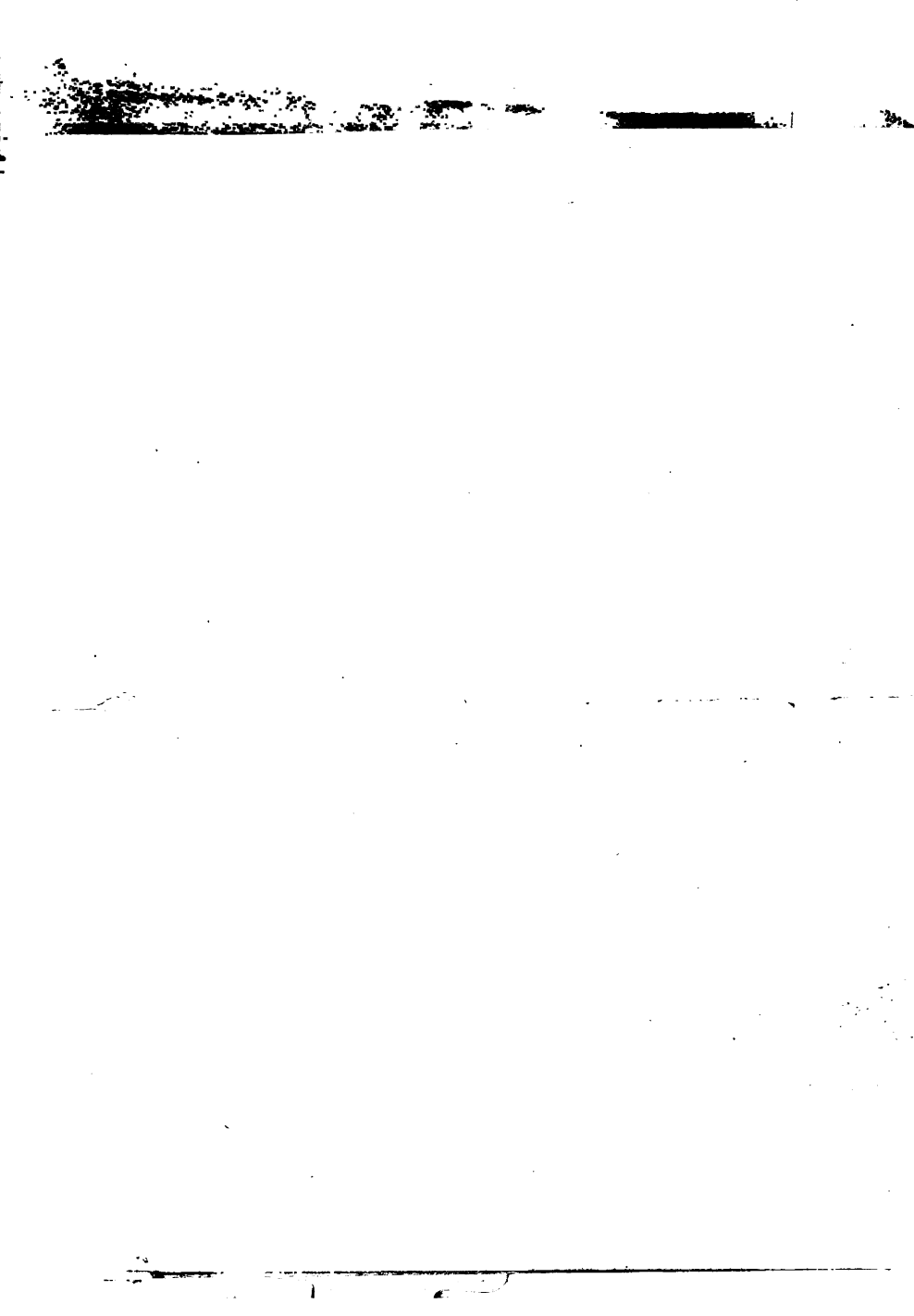
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MISS BALDERSTON has specialized in Laundering, its science and technique, for the past six years. She has put the result of this work into a new book which will meet the need of teacher, housekeeper, and student.

The book contains illustrations of various laundry equipment, and also gives much attention to stains, cleansing and renewal of fabrics, and general washing methods. For teachers, help is given on equipment of class rooms, and there are also various outlines for planning courses of study and hints for class-room management.



Minnie S. Turner

153 Lowell St

Somerville

LAUNDRY WORK

FOR USE IN

HOMES AND SCHOOLS

BY

JUNIATA L. SHEPPERD, M. A.

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JUNIATA L. SHEPPERD.

INTRODUCTION.

This book is designed both for a school text and a housekeeper's aid. Its success in the past proves its adaptability to these purposes. Teachers have found it a text especially-helpful at the time when students are pursuing the study of such pure sciences as chemistry and physics, because so many practical applications from both can be made in laundry work. For example, in chemistry the clearing of muddy water, the combination of a trace of soap left in the clothes with a trace of iron in the bluing to form iron rust, etc., are simple but interesting and useful facts which are applicable to household tasks. The principles of solution learned in physics mean more when applied to problems of cleaning with ether, alcohol, gasoline, etc., than when simply stated as abstract truths.

I am indebted to my able assistant, Miss Mary L. Bull, for aid both in making illustrations and testing formulae.

The halftones are from photographs made by Mr. F. B. Headley and H. D. Ayer.

J. L. S.

St. Anthony Park, May, 1909.

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Laundry Work for Homes and Schools.

CHAPTER I.

LAUNDRY ROOM AND UTENSILS.

THE LAUNDRY ROOM.

REASONS FOR HAVING A SEPARATE LAUNDRY ROOM.

There are several potent reasons why a separate laundry room is very greatly to be desired. One is, that it may be constructed of a size most convenient, of materials most desirable, and in a manner most suitable to the purpose for which it is intended. It may also be equipped as befits its use. It provides a place where laundry utensils may be permanently kept, and where laundering operations may be carried on without mussing up the rest of the house or rendering its atmosphere foul with escaping odors, steam and dampness. If necessary, clothes may be dried in a separate laundry room without occasioning inconvenience, or getting the clothes specked with dust or soot.

THE LOCATION OF THE LAUNDRY ROOM.

The room designed for the laundry should be as far removed as possible from the rest of the house, and still be convenient. It may be either on the first floor or in the basement, according as the one or the other is the more convenient or may be more easily equipped for it. If on the first floor, it should be separated from the kitchen by a well ventilated hall or by the fuel room. A laundry room on the first floor means the saving of many steps, is as a rule better lighted and drier than a basement room, but is expensive if space must be added to the house proper in order to provide it. If the laundry is in the

basement it should be convenient to the stairway and in a place where there will be the least dust and the best light and ventilation. Ordinarily, a basement laundry room costs less than a first floor room as space is usually already available for it and, being nearer to the central heating and water system, may be more cheaply piped. Such a room would be objectionable, were it damp, dark or poorly ventilated, but if properly constructed it will possess none of these characteristics. Having the laundry room in the basement does, however, make it more difficult to conduct other household operations at the same time with the washing, and renders it necessary to go up and down stairs frequently.

In large institutional buildings the laundry room is usually on the top floor. This is advisable, since steam and odors rise, and where such extensive operations are carried on, the atmosphere of the building would otherwise be constantly unpleasant.

THE SIZE OF THE LAUNDRY ROOM.

The laundry room should be large enough to contain all the utensils necessary in the laundering process, and to allow heavy articles, such as the wash bench, washing machine and ironing table, to set in their places when not in use, as the frequent lifting of them is a needless waste of strength. While the laundry room should be large enough to enable the laundress to perform her work in comfort, it should not be so large as to make her take extra steps, or do unnecessary cleaning.

THE LIGHTING AND VENTILATION OF THE LAUNDRY ROOM.

There should always be an abundance of light in the laundry room. This not alone makes it possible for the laundress to readily detect imperfections in her work, but it also exerts a very wholesome effect upon the atmosphere

about her. Sunlight is one of the first requisites to good sanitation. There should also be good ventilation in the laundry room. Numerous windows, capable of being easily raised and lowered both at the top and bottom, and so arranged as to allow the entrance of air without causing draughts, will provide sufficiently for this. In first floor rooms a skylight is desirable, as it provides an outlet for steam and odors and renders the room both lighter and more comfortable.

THE FLOOR OF THE LAUNDRY ROOM.

Hard and soft wood, tile and ordinary cement are the materials commonly used for floors in laundry rooms. Hardwood makes a floor which is easily kept clean, does not readily absorb water and is durable, but it is somewhat expensive. A soft wood floor is not so easily kept clean, is more absorbent, splinters and becomes rough in time, but is less expensive.

Tile cement is an expensive material and is cold on the feet in winter, but is very durable, is non-absorbent and is easily kept clean. Ordinary cement probably makes the most satisfactory floor of any. It is not prohibitive in price, is durable, non-absorbent and is easily kept clean. It does not require a finish of any kind as do wood floors. Cement is, however, cold on the feet but a section of movable slat floor will serve to overcome this difficulty as well as to prevent the shoe soles from becoming damp in case water is spilled.

THE ADJUNCTS OF THE LAUNDRY ROOM.

Whenever possible the laundry room should be provided with hot and cold water and with some means of carrying away dirty water. These things require the expenditure of a considerable sum of money, particularly in the country where private water and sewage systems must

be installed—which may not in all instances be feasible. A good cistern should, however, in any case be provided, as soft water is almost indispensable to successful laundry work.

Where the house is heated by some mechanical system, a drying room fitted out with pipes, adjoining the laundry, will be found a great convenience.

Every laundry room should have a complete supply of the materials and utensils needed in washing and ironing.

UTENSILS.

WASH TUBS AND BENCH.

Stationary tubs may be made of different materials, and are known under different names, such as Enameled Iron, Yorkshire Glazed, Slate, Albereine, Anchor, etc. The Enameled Iron is the most expensive, and the Anchor, the cheapest.

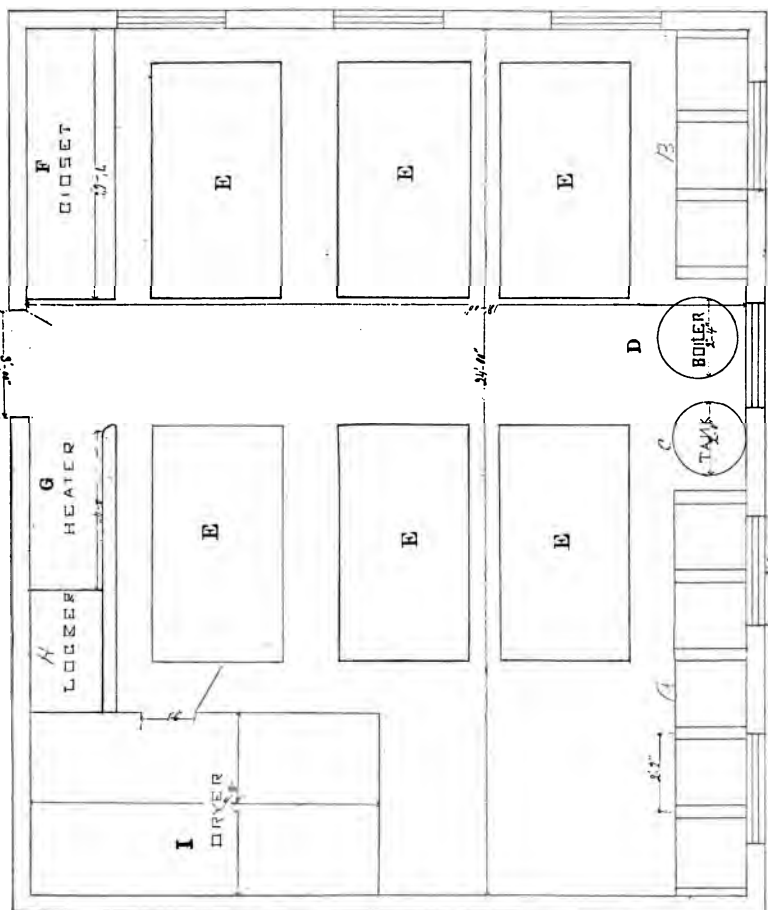
The Albereine is fourth in price but is very desirable because of its durability. It takes the place of the old soap-stone tub, which is rarely, if ever, made at present.

Slate tubs break easily and rank third in price.

The Anchor is cement alone, and is not desirable, as it chips readily.

Portable tubs are usually made of wood or of galvanized iron. A wooden tub is heavy to handle and requires special care in dry weather to prevent its falling apart, but it holds the wringer well and is easily kept clean. A galvanized iron tub is light; and not difficult to clean but does not hold the wringer unless fitted with wooden cleats and clamped to the wash bench.

LAUNDRY CLASS ROOM.



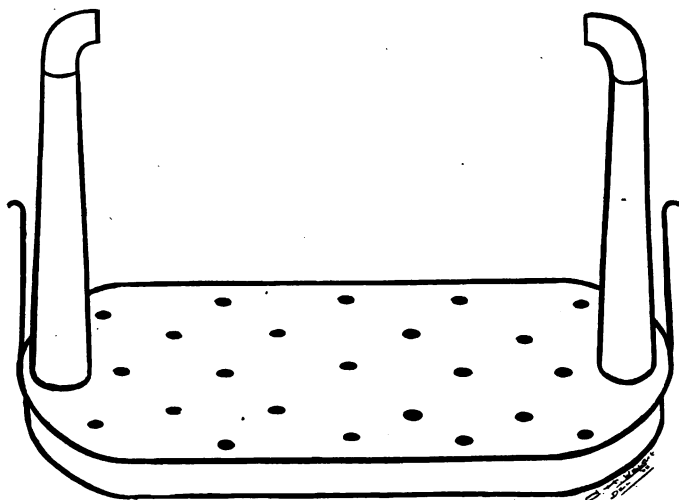
A and B—Stationary Tubs. C and D—Boilers. E—Tables. F—Closet for Irons, Etc. G—Gas Jets or other means of heating Irons. H—Locker for Students' Aprons, Etc. I—Drying Room.

A wash bench should be of convenient height for the worker. The legs should be set on at such an angle that pressure from the top will make the bench stand firmly. The top of the bench should be larger than the bottom of the tub, the added width being necessary to prevent the tub tipping, and the extra length being convenient to place the soap dish and other accessories on. Circular pieces of wood, nailed securely to the top of the bench to form a rim in which to set the tub, will be found very helpful in holding it securely in place.

WASHING MACHINES.

Machinery for washing has long been available. Some machines are very simple; others much more complicated. Some depend largely on mechanical means for removing the dirt; others resort to heat, with water and chemicals so combined and used as to free the dirt and carry it away. The washboard probably took the place of a rough stone as an aid in washing. It is a step higher, as it can easily be moved from place to place, and wears the clothes less. The first wooden washboards were probably crude instruments. The wooden pestle and the funnel of tin, which were used for washing clothes, probably took the place of kneading and punching with the hands and tramping with the feet. All these simple devices, except the wash board, have passed away, or have been elaborated and used in the modern machines. Human ingenuity and skill have given us many washers perfect in design and workmanship. Which one best suits her needs each woman must decide, but the one which runs the easiest, has little machinery to get out of order, and cleans the clothes with the least injury to the fabric is best. Some machines are so made that the cleansing is done by moving the clothes about inside the washer, at the same

time that they are punched and squeezed, by means of a wheel or lever in the hands of the manipulator. Others are so made that the clothes are rubbed on a board in a manner similar to hand washing. The chief precaution necessary is to avoid catching the clothes and tearing them. Some machines cleanse by forcing boiling, soapy water against the most soiled portions of the clothes, thus washing away the dirt particles as they are loosened and allowing the water to act still further on the soiled parts. This is one method of chemical washing. Another method may be found under the head of paraffine washing.



Simple Steam Washer.

WASHBOARDS.

Washboards are in different patterns and made of different materials. A wooden washboard probably injures the clothes as little as any kind, but is rather unpleasant to use unless one is accustomed to it. Wooden washboards may split in time, if not well cared for. In select-

ing a glass or metal-covered board, choose one that is not too much corrugated, because many angles wear the clothes as they glide over them. When the washing is finished, the washboard should be washed, wiped dry, and put away in a clean, dry place. A change of temperature should be avoided in using a glass board.

WRINGERS.

Clothes are less liable to be torn when a wringer is used than when wrung by hand. A wringer on a standard, which is so made as to let down on each side, forming a bench to hold two tubs, one on either side of the wringer, is a very convenient contrivance. When not in use it can be so folded as to occupy very little space. A movable wringer is preferable to one attached permanently to a washer, because it can be taken from washtub to rinsing tub as needed. The rubber-covered rollers of a wringer should be well made, and long enough to admit a bed blanket when doubled to one-fourth its original width. The wringer should be strong and well made, and capable of such adjustment as to enable one to wring either large or small articles successfully. Never pass hot clothes through the wringer, as intense heat injures the rubber rollers. Every part of the wringer must be perfectly clean. When through using it each time, the rollers should be wiped with a dry cloth, or, if much soiled, they should be rubbed with a cloth wet in turpentine or kerosene, washed with soapsuds, rinsed, and wiped dry. The screws should be loosened when the wringer is no longer needed on wash day.

CLOTHES LINES AND PINS.

Clothes lines are of different kinds, and may be either movable or stationary. The stationary lines are usually of galvanized wire. They are convenient because always

up, but require cleaning each time they are used if smoke or dust can reach them. They are more expensive than rope lines. A rope line should be taken down each time after using, and kept away from dust in a clean, dry place, and washed occasionally. It should not be allowed to get wet. The line should be within reach of the one doing the work and the clothes must be kept off the ground. For this reason a pole to raise the line in the center is necessary. A clothes line arranged on a pulley will be found very convenient in winter as the laundress may then hang the clothes upon it without going outside, at least, farther than the porch.

There are several patterns of clothes pins, but the plain, simple ones are usually most satisfactory, as they are inexpensive, easily washed when dirty, and do their work very well. It is wise to have a clothes pin apron, of some strong material, to wear when hanging out and taking down the clothes, and to keep the pins in when not in use. They will then be kept clean and will not be readily lost.

MANGLES.

A hand mangle is sometimes used in a house where there is a large amount of flat work, such as sheets, pillow cases, napkins, etc. In this, a padded roller takes the place of the ironing table, and a highly polished metal roller plays the part of the iron. The polished roller is heated, and the rollers screwed down together in a manner similar to that in wringers. The roller must have the right heat, the clothes be folded smoothly, started in straight, and not pulled out of shape. The mangle should be screwed tightly enough to give good pressure, but not tightly enough to strain the machine. Pieces of cloth should be attached to the mangle so that the clothes may pass in and out without being soiled. Like the

wringer, the mangle must be kept perfectly clean and dry. It must be kept oiled and the protecting strips of cloth, called aprons, removed and washed when dirty. The screws should be loosened and the mangle kept covered when not in use.



Laundry Stove.

CHAPTER II.

WATER.

THE FUNCTION OF WATER IN THE CLEANSING PROCESS.

Water is the most universal solvent known. Its function in the cleansing process is to loosen dirt, to afford temporary storage room for it, and to act as a conductor of detergents, such as soap, borax, ammonia, etc. It is possible to cleanse clothes somewhat by merely soaking them in warm water for a long time but the process is considerably facilitated by the addition of detergents and is shortened by the application of mechanical means, since this removes particles of dirt already loosened, and renders others more accessible to attack. That primitive man was aware of the solvent property of water is evidenced by the methods of washing he practiced. In very early times clothes were washed by being soaked in warm, shallow water near the shore of lake or river, and then vigorously beaten against the flat, smooth surface of a conveniently situated rock to extract the dirt particles from them.

THE CLASSIFICATION OF WATER.

There are, in general, three kinds of water, soft, temporarily hard, and permanently hard. Soft water is water which contains no mineral salts which prevent the detergent action of soap when combined with it. Temporarily hard water is water which contains the carbonate of calcium, magnesium, iron or aluminum. Permanently hard water is water which contains the sulphate or chlorid of calcium, magnesium, iron or aluminum. Temporarily hard water may be rendered soft by boiling or by the addition of lime water in sufficient quantities, while

powerful alkalies alone are capable of softening permanently hard water.

THE SOURCES OF WATER.

The chief sources of soft water are rain and snow, though comparatively soft water is also found in springs, wells, lakes and rivers. The sources of hard water are springs, wells, lakes and rivers. The nature of water depends very largely upon the geologic formation of the place in which it is situated. It is hard or soft, according as the region in which it lies, or the regions through which it passes, does or does not contain, in soluble form, those minerals which cause hardness. Thus it is that the water of springs, wells, rivers and lakes may be either soft or hard, temporarily or permanently so.

THE ESSENTIAL CHARACTERISTICS OF WATER SUITABLE FOR LAUNDRY PURPOSES.

That the water used for laundry purposes be soft is not absolutely essential; but such is greatly to be desired, for the reason that it saves time, labor and soap, and injures both colors and fabrics less than hard water, since no chemicals need be used with it. Whether the water be hard or soft, it is important that it contain no iron. Rust spots are very likely to appear on clothes washed in water containing iron, particularly if the soap is not thoroughly rinsed out. The free alkali of soap unites with the iron to produce rust. Water for laundry purposes should be free from discoloration, whether caused by falling leaves, clayey soils or whatever source, as discolored water will leave its traces on the clothes washed in it. Water used for washing should be odorless, when hot as well as when cold, as an odor indicates the presence of impurities which it is best not to bring into contact with the clothes.

THE PREPARATION OF WATER FOR LAUNDRY PURPOSES.

Soft water requires no preparation for laundry purposes, further than by straining to be freed from foreign materials that may be in it, or to be cleared according to directions on page 65 if discolored. Hard water, however, must be softened in some way, before it is fit for use in washing. Unless the minerals in it are neutralized (and this is what occurs, when it is properly softened), they will unite with the soap to form a scum known as lime curd, which floats about in the water, and attaches itself to clothes that are immersed in it, forming the black or dark specks referred to on page 33. Soap alone may be used to neutralize the minerals found in hard water, but such excessive amounts of it are necessary for this purpose that it is usually cheaper and more satisfactory to employ some chemical as a partial softening agent, at least. The chemicals most frequently used are sal soda, powdered lye, lye from wood ashes, lime, borax and ammonia. All these chemicals should be kept closely covered, as they deteriorate rapidly when exposed to the air, and they should be kept out of reach of children as they may, if ignorantly or improperly handled, produce fatal results. Any of these agents, used in excess, will cause yellowness in the clothes. Borax and ammonia are somewhat expensive, but one or the other of them should be employed in softening water to be used in washing silks, wools or prints, their action being less harmful on delicate colors and fabrics than that of the other chemicals. Sal soda is about the least expensive of the softening agents and if properly dissolved may safely be used in water for washing tea towels and articles of a coarse, rough nature. It constitutes the basis of most prepared washing compounds and may, therefore, better be used than they, since the latter cost more and are no more ef-

fective or less harmful in their action. While chemicals are not always necessary with temporarily hard water, they are frequently resorted to.

Waters vary so much in degree of hardness that it is difficult to give exact rules for the use of softening agents; but the following are suitable for moderately hard water:

To Soften Water with Sal Soda (Sodium Carbonate).

Use one level tablespoonful of sal soda or washing soda to each gallon of water. Dissolve the soda in hot water in a bowl or graniteware basin before putting into the water in the boiler. Let the water boil, and skim and strain before using.

To Soften Water with Powdered Lye.

Use one-half a tablespoonful of lye to four quarts of water, and proceed as with sal soda.

To Soften Water with Lye from Wood Ashes.

To each quart of sifted wood ashes (use hardwood) add one quart of water, and boil a few minutes, adding more water, if too dry. Remove from the fire, add three quarts of cold water, let settle, and strain. Use enough to make the water suds, and cleanse the same as with sal soda.

To Soften Water with Home Made Washing Fluid.

Add two tablespoonfuls of home made washing fluid (see page 39) to each gallon of water used.

To Soften Water with Borax.

Use one tablespoonful of borax to each gallon of water, then proceed as with sal soda.

To Soften Water with Ammonia.

Put in sufficient ammonia to overcome the minerals, but do not have the water hot, because the ammonia will evaporate more rapidly and some of its power be lost.

To Soften Temporarily Hard Water by Boiling.

Boil the water for some time, then strain it to remove the scum and sediment from it. The boiling drives off the carbon dioxide gas, and the carbonates are precipitated, thus rendering the water soft.

To Soften Temporarily Hard Water with Lime.

When hardness is due to the presence of lime only, water may be softened by the addition of lime. The added lime unites with the carbon dioxide in the water and frees the carbonate, and both the previously dissolved carbonate and the added lime are precipitated. An excess of lime should not be added, as that not needed to free the carbonate remains in the water and prevents its being as soft as it should be. Two quarts of lime water to five gallons of water is the usual rule. This process not alone softens the water but in a measure it purifies and clears it as well, since a considerable part of any organic matter that may be present is carried down with the lime.

To Clear Discolored Water.

Dissolve two teaspoonfuls each of alum and borax in a little hot water, and add to each gallon of water to be used; stir and allow to settle, then carefully pour the clear water off. It is best to use no more alum than is really necessary, because the presence of alum renders the water unpleasant to use and hardens it. Soap suds may be cleared in this way also and used again but it requires a longer time for precipitation than does water discolored by natural sources.

CHAPTER III.

SOAP.

THE FUNCTION OF SOAP IN THE CLEANSING PROCESS.

The function of soap in the cleansing process is to enter the minute spaces between the threads of the fabric and by its action, emulsify the grease and oily exudations of the skin, which hold dust and dirt in suspension. When these fatty substances have been emulsified, they pass out into the water as the article is rubbed, and the adherent dust and dirt particles go with them.

THE CONSTITUENTS OF SOAP.

The essential constituents of soap are a fat and an alkali. The fat contains an acid which unites with the alkali and produces saponification. The fats used for soap may be either of vegetable or of animal origin. The vegetable oils commonly used for this purpose are cottonseed, palm, olive and cocoanut. The animal fats used are for the most part those derived from animals slaughtered for food, though those from other animals may be, and sometimes are employed. The alkalies generally used are soda and potash. Previously to 1789 potash was used almost exclusively for soap making, but about that time Leblanc discovered a method of making soda from common salt (previously, it had been made from the ashes of marine plants only) which, together with the fact that it is now also a byproduct in the manufacture of bleaching agents, immense amounts of which are yearly demanded, has made it a cheaper product than potash, which is derived from wood ashes. The depletion of our forests, as well as the common use of coal and gas for fuel purposes, has tended to reduce the output of potash, though parts of

both the United States and Canada still make it an article of commerce.

THE ADULTERANTS USED IN SOAP.

Resin is one of the most common adulterants used in laundry soap. It can be combined with the alkali in such proportions that the soap will lather well, and that it will whiten rather than yellow the clothes; nevertheless, it so cheapens the cost of production, and lessens the value of the soap as a cleanser that a soap containing it is not worth the price of a pure soap. Silicate of soda is another chemical which enters very largely into the composition of some soaps. Potato starch, Glauber's salts and soda crystals are very commonly used as fillers in soap. Soft soap is more easily adulterated than hard soap because in its normal state it is less purified, and the presence of adulterants in it is, therefore, less easily detected.

THE CLASSIFICATION OF SOAP.

According to the amount of moisture present, soaps are classified as hard and soft. According to the amount of free alkali present, soaps are classified as mild, strong or neutral; the mild soap containing but little free alkali, the strong soap much, and the neutral supposedly none. As a matter of fact, however, a perfectly neutral soap is not procurable, though some of the soaps especially prepared for delicate fabrics approach that condition more or less nearly.

THE CHARACTERISTICS OF GOOD LAUNDRY SOAP.

Whether soap should be strong, mild or neutral depends upon the purpose for which it is to be used. For washing very greasy or soiled garments, soft soap, or strong bar soap, is considered best, but for wools, silks and prints a neutral soap is to be preferred. A mild soap is useful for washing thin white articles and those which are

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but slightly soiled. Laundry soaps of whatever nature should be light colored, as darkness of color indicates adulteration. Linseed oil soap is, however, a notable exception to this statement. Good laundry soap, if of the hard variety, should be dry. This quality may be determined not alone by the appearance of the soap but also by its weight, the presence of much moisture making the soap unduly heavy. The amount of free alkali present even in a strong soap should not be excessive, or it will injure both hands and fabrics. That laundry soap is the best which is the most free from adulteration, which removes dirt most quickly and completely, and which at the same time injures fabrics and colors the least.

ECONOMY IN THE USE OF SOAP.

It is more economical to buy soap by the box than by the bar, both because it costs less and because it may be allowed to dry out more, making it less wasteful when used. It is also more convenient to buy it in this way. Less soap is wasted by preparing a soap jelly, as directed on page 26, than by soaking the whole bar of soap in the water to produce a suds, as this makes it possible to use all odds and ends, both of toilet and of laundry soap. Whether a jelly is made or not, all small pieces of soap should be saved for use in the wash boiler or elsewhere. A soap slicer costs but a few cents and will be found a great convenience. If the jar in which soft soap or soap jelly is kept is covered as it should be, to keep out dust and dirt, the water with which it is washed when empty may safely be turned into the wash tub or boiler, thus utilizing all the suds-making possibilities of the soap. Soap is by no means an inconsiderable item of expense, and economy should be practiced in its use.

THE HOME MANUFACTURE OF SOAP.

In times gone by soap, particularly of the soft variety, was very commonly made at home. It is made by many frugal housewives even of today. The home made product does not as a rule equal the commercial article because it is usually less refined and the essential elements are not always properly combined; nevertheless it does very well for washing coarse, greasy articles and for general cleansing purposes, and may well be made by those who have the time and the necessary materials at their disposal. Due to the varying composition of the fats used in home soapmaking, the exact amount of lye to use with them cannot be definitely stated. That must be learned by practice and experience. How twofold more difficult was it for our grandmothers, who had to prepare from wood ashes even the lye that they used, and who had no reliable means of determining its strength! Yet many of them were veritable adepts in the art of soap making. Some of the tests they applied to their product to determine its excellency or deficiencies may be of service to those desirous of making soap. A small amount of the soap was ordinarily taken from the vessel in which it was made and added to water. If it lathered readily and the suds had a blue cast, it was adjudged a good soap; if it did not lather readily or the suds was yellow, it was regarded as having too little lye for the amount of fat used, and more lye was consequently added. Some judged the quality of the soap by the appearance of a small portion of the mixture dropped on a cold surface. A gray appearance on the outside of the sample or a thin, slimy appearance indicated too much grease. A granular, separated appearance or a gray covering over the entire surface of the sample indicated an excess of lye. Two methods of making soft soap were employed by our grandmothers—

one known as the cold process, the other as the hot process. In the cold process the fat was put into a vessel, the potash, dissolved in boiling water and turned over it; the whole was then covered and left to stand, more boiling water being added each day until a sufficient amount had been added. Saponification began at once but it often required several weeks to complete the process. The mixture was stirred frequently and the finished product was a jelly-like soft soap. In the hot or "boiled" process the grease was weighed and boiled in a lye, not too strong, until the two were incorporated and the kettle contained a turbid mixture which fell from the stirring paddle in strings. Strong lye was then added, a little at a time, until the mixture became more nearly transparent. It was then tested according to one or the other of the tests previously mentioned. These two methods are pursued in exact or modified form today by those who make soap at home.

To Make Hard Soap from Refuse Fat.

Put two and one-half pints of cold water into an iron or earthenware vessel, and pour into it the contents of a pound can of powdered lye, being careful not to breathe it into the lungs or get it on the hands, as it is very powerful and injurious in its action. The chemical action which takes place when the lye is dissolved makes the liquid hot, and it must be allowed to cool before being added to the fat. Weigh out six and one-half pounds of grease, and heat it to the melting point, but not further than that. When the lye is cool, pour it on the fat, stirring constantly, and continue to stir until the liquid assumes the consistency of honey, when it may be poured into shallow pans to harden. Too long stirring may cause the ingredients to separate. If the fats used are burned or otherwise discolored, the soap will be rather dark in appearance.

To Make Hard Soap from Scraps of Fat Meat.

Put into a jar having a capacity of not less than a gallon, three quarts and a pint of cold water. Pour into this the contents of a pound can of concentrated lye. Set the jar in a warm place in the kitchen, and put all the scraps of fat meat which are trimmed off from fresh meat or which are left at table into this, keeping them under the liquid by means of a weight. Let stand until the scraps have disappeared, and a homogeneous mass results.

To Make Paraffine Soap.

Cut up with a soap slicer one bar of laundry soap, or use a pound of good soap chips. Slice in the same way one-half cup of paraffine wax. Mix the two, put into a sauce pan with one-half cup of water. Stir the mixture until it boils and becomes a homogeneous mass, then pour into a form, let cool, and set away for use.

CHAPTER IV.

THE OBJECT AND AIM IN WASHING.

The object of washing is to make clothes more sanitary and to improve their appearance.

The aim should be to remove all dirt, to keep the white clothes white, the colored ones bright and new looking, the flannels soft and unshrunk, and to achieve these results with as little injury to the fabric, and at the expenditure of as little labor as is possible. With the exercise of care and judgment in the selection of materials used in washing, and in the manipulation of different fabrics during the cleansing process, any woman may fulfill this aim very satisfactorily.

THE CLEANSING PROCESS.

Washing is done by chemical or mechanical means, or by the two methods combined. The latter is most usual in laundry work. Although some other liquids are used in the cleansing process, water is the agent most universally employed by home workers. In this case, soap is the solvent, and water is the vehicle which carries the cleansing agent, and gives temporary storage room to the dirt taken from the clothes. Generally speaking, the solvent can do more thorough work in moderately warm water than in that which is either cold or hot, because cold water acts slowly on some substances generally found in soiled clothes, and hot water tends to set some kinds of dirt, if applied before the soapsuds has had a chance to enter the minute interstices of the fabric, and do a portion of its valuable work. The laundress often finds use for three kinds of soap,—a neutral soap, a regular laundry soap, and a strong, soft soap. In washing flannels, borax or am-

monia and neutral soap are usually the chemical agents which, hidden in the water, attack the grease and compel it to release the fine dust particles which, aided by the mechanical work of the hands in squeezing and moving the clothes about, find their way to the bottom of the vessel. Ammonia attacks some colors, and dims them, especially if used too freely. In washing prints, the chemical process is the same, but if the articles are much soiled a washboard is used, giving greater mechanical aid than the hands alone are able to do. Though many substances dissolve more readily in warm than in cold water, it is also true that the chemicals in the water affect the colors more when the water is hot, than when it is cold. It is, therefore, wiser to use simply warm or tepid water for flannels and prints. In washing white clothes, we need only avoid such mechanical and chemical means as will injure the fabric or affect the whiteness of the material. We may use a stronger soap, and it is often found necessary to introduce a more powerful chemical agent to overcome chemicals already in the water which hinder the detergent work, but, if more is used than is necessary to neutralize these minerals, it stands ready to attack the next thing that presents itself. As soon as clothes are introduced, the chemical attacks the oily particles, and, having finished them, begins on the fiber of the cloth, never ceasing its work of destruction until all rinsed out. More severe mechanical means than the washboard may be resorted to in washing white clothes, if it seems necessary,—as, a brush applied to the dirtiest parts, such as collarbands and wristbands of shirts, etc.

The wringing of clothes is an operation which demands especial attention. It is essential that clothes be wrung dry in order to remove dirty water from them, but they must be so wrung as not to wrench and strain the fibres.

The wringer should be adjusted to suit different thicknesses of cloth, whether they occur in one article, or in different articles, and buttons should always be folded inside. It not alone strains the wringer to run thick pieces through it when it is screwed tightly, but it is also very likely to tear the cloth; and if the wringer is left loosely screwed all the time it does not properly dry thin materials. Frequent adjustment to suit varying conditions is absolutely essential to good results. Hand wringing is practiced by many people, and to good effect. In wringing by hand, an article should be folded straight and even, grasped at the top with one hand, and twisted steadily and evenly with the other until moderately dry. Small articles should be simply squeezed.

When clothes have been well washed in one suds, they can usually be made clean and white by placing them in tepid suds, bringing to the boiling point, and allowing them to boil for a few minutes. This causes less injury to the fabric than a second washing. There are a few points to be remembered in preparing clothes for boiling. They must be wrung dry, shaken out, the dirty parts, or the parts that were dirty and are still a little gray, well soaped, and the suds into which they are put, strong but not hot, because hot water will set the dirt. They must not stop boiling after they begin, and, when taken into tepid water from the boiler, each piece must be punched under the water as soon as put into the tub. Exposure to the air seems to set the dirt, and cold water contracts the fibres, thus holding the dust particles, instead of allowing them to fall out, as they should when the clothes are rinsed or manipulated in this water, preparatory to the rinse water proper. Clothes should not be simply wrung from hot water but should be sudsed or rinsed, the water having been cooled a little before beginning the operation. Hot

water is deleterious to the wringer, and does not benefit the clothes so much as gently washing or rinsing them in the tub. Clothes should be punched about in the boiler as they boil. Two tablespoonfuls of kerosene in the boiler of water will aid in cleansing, though it increases the amount of soap needed. Some believe that boiling makes clothes gray, but there seems to be no reason for such belief if the above directions are followed, for experience has proven that many soiled clothes can be made clean and white with boiling by using kerosene, and rubbing little, or none at all. The arguments against boiling clothes are that it requires more soap, more fuel, and more water. The reasons in favor of it are that it is easier on the clothes, more sanitary, and requires less labor.

Both white clothes and prints should be thoroughly rinsed, to preserve the fabric in each case, and to keep the white clothes white, and the colored ones bright and new looking. Prints should be dried quickly in the shade to prevent injuring the colors. White clothes should be dried in the bright sunshine, and allowed to take the dew, that they may retain their pure white appearance. Whether bluing is needed in white clothes depends upon circumstances. If they can be dried in clean air and sunshine, they will stay white, provided one has good water and good soap, and washes them clean. But poor materials, or drying in the house, will give a cast that even bluing cannot cover up in some cases. No clothes should be hung where the dust will blow on them, or where they will switch in the wind, as the wind may fray the edges and render the starch in the clothes of no avail. Flannels and prints should be taken in as soon as dry.

PREPARATION FOR WASHING.

(1) The day before doing the family washing, break or cleanse a sufficient quantity of water for the work if

hard water must be used. Place in a barrel in a convenient spot, and cover.

(2) Collect all soiled articles.

(3) Sort all into heaps, each pile containing one kind only.

(4) If anything is torn, mend it, or at least draw the edges together to prevent friction from making the rent worse.

(5) Remove all stains, if this was not done at the time when they were made, which, when possible, is best.

(6) Shake and brush all flannels to remove dust and dirt, and roll up dry. Place all prints and colored materials together. The piles of linen will be: First, table linen; second, body and bed linen; third, handkerchiefs; fourth, toilet towels; fifth, muslins and laces, such as curtains; sixth, kitchen and pantry towels, dusters, etc.

If there is room and a sufficient number of tubs and basins, put all starched things, such as collars, cuffs, and shirts, to soak apart from the other linen, so that the old starch will not soak into other things. But, if necessary, all except table linens, handkerchiefs and kitchen cloths may go into one tub. These must always be kept by themselves until they are clean, and have been boiled. Handkerchiefs, if very much soiled, should be soaked in salt and water, and punched about with a stick in the water.

Prepare melted soap for the washing by using bits and ends of soap which have been left. Cut these fine, and shave up as much more as is necessary, or buy soap chips for the purpose. Place the soap in an earthen jar, just cover with water, and set the jar in the oven or on the stove until the soap is melted or dissolved. Use in the proportion of one gallon of water to one-fourth pound of soap. This should be prepared the day before the family

washing is to be done, and the clothes (white) put to soak in a weak suds, the spots which are most soiled being rubbed with soap. Putting clothes to soak hastens the process of washing on the regular wash day somewhat, because it loosens the dirt in the clothes, rendering less manipulation necessary and because the tubs are in place, all ready for work. Washing the flannels before the white clothes necessitates the use of more soap and water, but they *must have mild* soap, and they must be dried quickly. Sometimes the sun is getting low if one washes the white clothes first, and the flannels dry so slowly that they are shrunk more, and are not so soft as they would otherwise be. Black flannels must be washed alone, because any lint shows on them.

WASHING DAY.

Rise early. The air is fresher and cooler, and one is more able to do such work in the early part of the day. Light the fire and fill the boiler with soft water.

REMOVING STAINS.

All stains should be removed immediately when possible, as they are much more difficult to dislodge if allowed to dry. Soap tends to set rather than remove most stains, and articles should therefore not be dipped in soap suds before the stains are removed. Soft water is more effectual in removing stains, than is hard water.

To Remove Stains with Turpentine.

Obstinate stains on white goods may sometimes be removed by soaking the spot in turpentine, then washing, boiling, and finishing as directed for white clothes. If one application of the turpentine does not remove the stain, apply again. It is in some cases necessary to keep the stained spot in the turpentine ten or twelve hours.

To Remove Stains from Table Cloths, Napkins, Etc.

Milk stains and meat stains should be washed out with warm soft water. Whether stained with tea, coffee, chocolate, or fruit, remove the stain at once. Stretch the stained portion of the linen over a bowl or basin, cover the spot with table salt and pour actually boiling soft water from the tea kettle on the stain, holding the tea kettle high enough to let the water fall with some force. If the stain does not disappear at once, rub it between the hands, and again apply boiling water. If a stain has been overlooked and washed in, it is difficult to remove, and should be bleached on the grass, or the rule for old stains, given elsewhere, employed. Old tea stains will sometimes yield to boiling water, if first saturated with glycerine and allowed to lie for a time.

Creosote may be removed from table linen by washing the stained part in ammonia water or lime water. The solution should not be made too strong, as it may injure the fabric.

To Remove Fruit Stains with Sulphur.

Sulphur fumes can sometimes be effectively used in removing fruit stains. In order to concentrate the power of the sulphur as much as possible, secure an old plate and a tin funnel, and place them where the air from an open window or door will carry the fumes from the person working with the stain. Wet the stained portion with cold water, put a piece of brimstone or a tablespoonful of powdered sulphur on the plate, secure the stained portion over the opening in the funnel, and put a coal of fire on the sulphur. Keep the cloth wet by using a swab made of a bit of white cloth tied on the end of a stick. When the stain disappears, wash and rinse the spot well. Fruit stains can often be removed from the hands by the use of

sulphur fumes, a freshly lighted match, or by rubbing them with tomatoes (raw) and salt, lemon juice and salt, etc.

To Remove Old Fruit Stains.

When fruit stains have been washed a number of times they become as firmly fixed in the cloth as a dyed color; and can be removed only by the use of some bleaching material, as chloride of lime, javelle water, oxalic acid, etc. To remove stains with oxalic acid, place two bowls on the table. In one put a pint of warm water and a teaspoonful of concentrated oxalic acid or a like amount of the crystals. In the other bowl put the same amount of water, and a teaspoonful of concentrated ammonia. Stretch the stained portion over an empty bowl, pour boiling water through it, and while still hot, dip in the acid water, and rub; then put in the ammonia water, repeating until the stain disappears; then rinse thoroughly in ammonia water, and afterward in clear water, to be sure that no acid remains, as it will injure the fabric. One may use the acid by setting a flatiron on end, and laying the stain wet in hot water over the tip of the iron, thus keeping the cloth hot while applying the acid; but there is more danger of making a hole in the cloth than by the slower process. Javelle water may be applied in the same way as the oxalic acid, but must be used with equal care, as it is very powerful in its action.

To Remove Peach Stains.

Peach stains are obstinate. A little alcohol rubbed into the stain and allowed to evaporate, and the treatment repeated two or three times before boiling water is applied, will sometimes remove such stains, but an acid or javelle water are frequently the only means of removing them, if allowed to become fixed. Peach stains may sometimes

To Remove Fresh Tar.

Rub the spots with fresh lard, let lie a few minutes and wash in soap suds.

To Remove Ink Stains.

Whenever ink is spilled, salt should be thrown upon it at once and renewed frequently until as much of the ink has been absorbed as is possible.

It is impossible to give an unfailing rule for the removal of ink stains for the reason that the solvent to be applied varies with the composition of the ink. The following processes have, however, been pursued with success:

1. With salts of lemon. Make a weak solution of salts of lemon, place the stained spot on a warm flat iron and apply the liquid with a swab, rubbing gently. If the spot does not disappear, rinse it at once in ammonia water. Increase the strength of the solution, and apply it again, proceeding in this manner until the spot disappears. Rinse thoroughly in ammonia water in order that no acid may remain to injure the fabric.

2. With oxalic acid. Oxalic acid, used in exactly the same manner as the salts of lemon, sometimes proves effectual.

3. With chloride of lime. Use one teaspoonful of chloride of lime to one pint of cold water. Put the lime in the water, set it on the stove, and bring to a boil. Stir well, then immerse the stained part in the solution and punch it about. When the ink is so far removed that only a brown spot appears, dip it in warm vinegar, to counteract the action of the lime and to remove the brown spot. Rub between the fingers until not a vestige of the stain remains.

4. With common household materials. Soak in lemon juice and salt, vinegar and salt, or pieplant juice

and salt. Rub for a time, apply more salt, rub again, so continuing until the ink disappears.

These acids may any of them exert a harmful action upon some colors, and should, therefore, in all cases, be tried upon a small sample of the goods, before being applied to the whole article. It is well also to begin with a weak solution, and increase the strength only as necessary to remove the stain.

To Remove Ink Stains from Colored Goods.

If ink is spilled on colored goods, wash in milk (either sweet or sour), and salt. Rub for a time, apply more salt, allow to soak, then rub again; continue this process until the stain disappears.

To Remove Purple Ink.

Absorb all possible with blotting paper or salt, while the ink is fresh. Afterwards apply alcohol and glycerine in equal parts, and rub and sponge the stained spot with this mixture until the ink disappears.

To Remove Water Stains from Tubs, Sinks, Wash Basins, Etc.

To remove water stains from tubs, sinks, wash basins, etc., rub with a cloth moistened in kerosene, or apply a paste made of baking soda and ammonia. The remedy varies with the cause of the stain.

To Remove Black or Dark Specks from Boiled Clothes.

Black specks sometimes appear on clothes when taken from the boiler. They are due either to too little soap or imperfect softening of the water. To remove them, rub the clothes in a strong suds, boil them again in a strong suds and finish as any white clothes. If the spots are obstinate, rub a little turpentine on them before putting the clothes in the boiler.

To Remove Iron Rust.

Saturate with lemon juice and salt, and lay in hot sunshine; wet again in the salt and lemon juice and rub. If it is obstinate, use hydrochloric acid and warm water, one-third acid and two-thirds warm water. Iron rust is an oxide of iron and must be dissolved before it can be removed. Red iron rust will sometimes yield to the following treatment: Cover the spot with a thick paste made of pie plant juice or lemon juice thickened with salt and raw laundry starch. Half as much starch as salt should be used. Rub the paste into the spot, let lie in the sun and dew, and repeat the treatment if necessary.

To Remove Mildew.

This should be removed when fresh. It is a plant which grows on clothes when they are left in a damp, warm place. In time it becomes so rooted in the fibers of the cloth that it cannot be readily removed from them. If treated as soon as discovered it may sometimes be removed by soaking it in a saturate solution of strong vinegar (or lemon juice) and salt, or by boiling it in soap suds and leaving it in the dew and sunshine, for a few nights and days. Soaking the clothes over night in buttermilk, rinsing in cool water and spreading on the grass in the sunshine to dry, may prove effectual. Another method, which is sometimes pursued with success, is to wet the article in soap suds, soap the affected spots, applying salt at the same time, cover them with French chalk, and let the article lie for several days in hot sunshine; if the stain does not disappear at the first attempt, a repetition of the process will sometimes serve to remove it. Mildew can easily be removed with chloride of lime prepared as for bleaching fabrics, or with Javelle water, but when so firmly implanted that such drastic measures are necessary it is likely to leave a hole when it disappears.

To Remove Scorch Stains.

Lay the article in the window where the hot sunshine may act upon it for several hours. If the stain is but slight it may be removed by placing a folded white cloth under it and rubbing it gently with a damp cloth. An obstinate stain may be removed by dampening, soaping well and bleaching in the dew and sunshine.

To Prepare Javelle Water.

Javelle water is used in bleaching linens, etc., (quick process), and is made in the following manner: Put into a graniteware saucepan one-half a pound of sal soda and two ounces of chloride of lime; pour over this one quart of boiling water, and allow to dissolve. When the water has dissolved all it will, pour the clear water off, bottle, and set away for a stain remover and bleacher. Add more hot water to the part remaining, and treat in the same way.

To Remove Stains with Javelle Water.

Place the stained portion of the goods smoothly over some hard substance which will not be acted upon by the alkali, such as the bottom of a meat platter, and apply the javelle water with a small brush, rinse quickly in clear water, then in ammonia water. If the stain has not disappeared, treat in the same manner again, being careful to rinse well each time, that the fabric may not be injured.

Wetting the spots with a solution of hyposulphate of soda will tend to neutralize the deleterious action of Javelle water.

BLEACHING FABRICS.

When for any reason clothes have become yellow, bleach them by the methods our good old grandmothers used. Begin the work early in the spring, before insects are numerous. Boil the clothes in soap suds, and lay on

the grass after wringing them moderately dry. Let them lie there until the next week's washday, and repeat the process until they are again white. Or, if you wish, boil them, rinse them and immerse them in a liquid composed of buttermilk and water in equal parts and after three or four days rinse the milk out thoroughly, boil them again and if not quite white, repeat the process. Moisture remains longer in clothes on a freezing than on a summer day, but the sun has less effect on them in winter. Nevertheless, winter bleaching is good if one can avoid smoke.

Clothes may be successfully bleached with paraffine soap (page 21). This is done by boiling them in a strong suds, made with soft water, paraffine soap and borax, then sudsing and rinsing them, and if not perfectly white by laying them on the grass for a few days.

There are artificial bleaching powders to be had, and they are sufficiently powerful to do the work very quickly, but when using them one must remember that such chemicals are never inactive. When they have destroyed the organic matter which caused the yellowness, they attack the fiber of the cloth, and destroy that unless they are quickly and thoroughly removed by rinsing in plenty of water. The fabric often needs soaking in ammonia water to overcome the acid somewhat before trying to rinse it out. Bleaching powders can be bought in boxes, and directions for using them are usually given but any woman who has grass and sunshine does not need them. If the water is impure, do the bleaching in the winter, when there is snow water. Bleaching by means of chemicals is much more rapid than the old way, and by a careful person the work can be done with little injury to the fabric, but it is easier to injure than to avoid doing so. Hence the admonition,—be very careful in the use of chemicals.

Chlorine is the active agent of most bleaching powders. Of this, Youmans says: "It is so powerful that, if not quickly removed, it corrodes and weakens the fabric." Javelle water, much used for bleaching, is composed of a strong solution of chloride of lime and sal soda in water.

Turpentine has some little power as a bleacher, and is best used by mixing with soap jelly, and rubbing on the dirty places when the clothes are put to boil. Borax also has some bleaching, as well as detergent, power, but is too expensive for general use. It is often used in the water in which lace curtains are boiled, to bleach them somewhat. Use two ounces of borax dissolved in hot water for each two and one-half gallons of water needed in the boiling process.

SETTING AND BRIGHTENING COLORS.

To Set Delicate Colors.

For delicate colors, such as lavender, dissolve one ounce of crude sugar of lead in a gallon of water. Soak goods in this from one to three hours before washing. Do not let lie before rinsing and dry quickly, or it will run still.

To Set Blacks, Pinks, Etc.

To set blacks, pinks, and reds, soak half an hour or more in a strong solution of salt and water, and rinse in clear water before washing. Repeat this each time the article is washed, and rinse and dry without delay.

To Set Weak Colors.

To set questionable colors, soak a few minutes in water containing a little oxgall, and wash in this water.

To Brighten Faded Colors.

Soak a piece of crepe or tissue paper, of a color darker than the desired shade, in soft, warm water until you think the water is sufficiently colored to impart to the

cloth the tint that you want. Strain the water, test it with a small sample of the cloth, and if the color is satisfactory proceed to fully immerse the article, having previously washed, thoroughly rinsed, and wrung it dry. This is not a permanent dye, and the process must therefore be repeated as often as the article is washed. Wool materials may be successfully tinted in this way.

To brighten blues, soak, after washing and rinsing, in water slightly acidulated with vinegar, or in a weak alum solution, or rinse in very strong bluing water.

To brighten tans and browns, rinse in a water colored with strong tea or coffee.

EASY METHODS OF WASHING.

Paraffine Washing.

Make a strong suds, using soft water if possible, and some of the paraffine soap, for which directions were given on page 21. Put the soiled clothes into this and boil them continuously for several minutes, take out, suds in clean water, rinse well in warm water, blue and hang to dry. No rubbing is deemed necessary where this process is employed.

Kerosene Washing.

Soak the clothes over night in tepid water. Make a strong suds, the same as for boiling clothes, and for each six gallons of water add two tablespoonfuls of kerosene. Wring the clothes, shake them out, and put into the water while still cold, at least before it gets hot, and let boil half an hour, punching occasionally. Never let the water stop boiling until the clothes are taken out. Take them from this water into a clear, warm water, and knead and punch to aid in cleansing them; then wring, and repeat the first process. They sometimes require three boilings, if very much soiled, but if not much soiled, one is suf-

ficient. Rinse first in a hot water, and again in a warm water, to remove the oil. If the water is cold, the oil may cause specks on the clothes by attaching itself, with dust particles adhering to it, to them. This method of washing, when the work is properly done, makes clean, white clothes but requires much fuel, soap and water. In using kerosene one should never take the can to the fire but pour a little in a cup. When the cleanest clothes have been boiled, the water can be cooled, more soap and kerosene added and the second lot of clothes put to boil in the same suds. The boiler, tubs, wringer, and every utensil used will need to be well washed as the kerosene will leave a greasy scum.

HOME MADE WASHING FLUID.

Put two quarts of soft water into a gallon jug. Place the jug outside the house and in such a position that the wind will carry the powder of the lye which is to be added away from you, as it is very penetrating and disagreeable if breathed into the lungs. Place a funnel in the neck of the jug and pour into it one ounce of salts of tartar and the contents of a half pint can of concentrated lye. Stir with a stick until the ingredients are thoroughly dissolved; finish filling the jug with soft water and set away for future use.

To Wash with Home Made Washing Fluid.

In the evening heat a boiler of water, or enough to cover the clothes to be washed. Into a medium sized tubful of this warm water stir one cup of the home-made washing fluid. Put the clothes into this, one piece at a time, soaping the most soiled portions of each garment. The next morning draw off a portion of the water, heat it, pour again over the clothes and wash as usual. When washed, wring the clothes, soap the soiled spots if neces-

sary, and put to boil in a boiler of water to which one half-cupful of fluid has been added. Any such fluid injures fabrics more than a mild soap, but saves labor and accelerates the cleansing process.

GENERAL WASHING.

To Launder Wools.

Put into soft water enough mild soap (melted) to make a good suds, and when just lukewarm pour into the tubs. Take the cleanest and lightest colored wools first. One piece at a time should be put into the suds, and punched and kneaded well until clean, but never rubbed, because rubbing makes wool rough and hard. If flannel is very dirty, it may require two tubs of suds to clean it. When clean, rinse through two tubs of clear, soft water of same temperature as that in which it was washed. Fold smoothly (buttons inside), wring well, and shake thoroughly to raise the soft fiber. If the weather is fine and breezy, hang out at once, but if not, hang in front of, but not too near, the fire, and dry quickly to prevent shrinking. If there is sufficient heat to cause steam, the wool will shrink just as much as though it had been washed in water which was too warm. Wools should never be twisted or strained in wringing. If wrung by hand, they should be simply squeezed. A wringer is preferable in most cases because the water can be removed much more thoroughly by its use and if articles are properly manipulated there is less danger of injury to them. Colored wools are washed in the same way as white ones, namely, with the greatest possible dispatch. The last rinsing water may contain one tablespoonful of strong vinegar to each quart of water. This helps to revive some colors. If there are two colors in the piece, dissolve one tablespoonful of salt in each quart of the last rinsing water (just water enough to immerse the article). This tends to pre-

vent one color running into the other. Knitted and woven wool garments are sometimes better pulled into shape while drying. All woolen clothing may be more easily washed by using a little ammonia in the water, but it must be carefully used, and the clothes well rinsed thereafter. Some prefer borax in place of ammonia or soap. It does the work well, and gives good satisfaction, but it is more expensive than soap. Fine wools, whether white or colored, may be pressed with a cool iron on the right side under a thin cloth, but they must be nearly dry, first, or the iron will turn the moisture into steam, and cause them to shrink. The rougher and coarser wools may be treated in a similar manner, but really require little pressing, if carefully folded for wringing, and well shaken and stretched when hung up.

To Launder Embroidered Wools.

These should be washed as any other wools, stretched into shape as far as possible while wet, and ironed on a soft ironing sheet with a rather cool iron, and on the wrong side in order to accentuate the pattern.

To Wash Wools in Hard Water.

Make a suds with some mild soap, having the water merely tepid, and to each gallon of water, add one tablespoonful of ammonia, or the same amount of borax, if preferred. Treat the wools the same as before, only soften the rinse water also with either ammonia or borax.

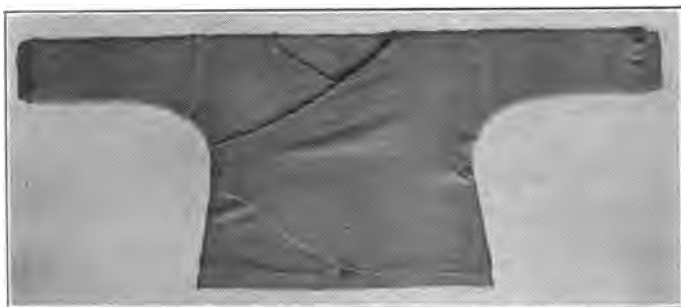
To Wash Wools in Hot Water.

Wools may successfully be washed with hot water if sufficient care is exerted in avoiding sudden changes of temperature; but such washing is more trouble than by the other process. To wash wools in hot water, prepare the suds as directed on page 40. Have the water in the tubs too hot for the hands, lay each piece in, and quickly sub-

merge it with a stick. Have a clean wooden form of a size to fit the tub (a barrel head will do) ; lay this in the tub and place a weight on it to keep the clothes under the water until it cools, then finish the washing in the usual way. Wools washed thus, or soaked for a time in any case, are likely to be harsh if not kept constantly and entirely under the water.

To Launder Knitted Wear.

Knitted jackets, drawers, babies' stockings, bootees, etc., should be washed the same as wools. They should be pulled into shape while drying, or dried on forms made for the purpose. Knitted shawls may be measured before being washed, and pinned into shape on a sheet fastened to the floor, or they may be well shaken when wrung, and pulled into shape while drying.



Wooden Form for Baby's Shirt.

To Launder Hosiery.

Woolen hose retain their size and shape well when dried on stretchers. Such stretchers may be easily made by an ingenious person, by marking the outline on an inch board, and cutting out. Two stockings may be dried on the same stretcher. The feet of socks often require some soap and special rubbing. They should be washed in two waters, and well rinsed. Double evenly along the back,

and wring dry with the wringer. Pull into shape if the stretcher is not used, and, if they have white feet and dark uppers, hang by the toe in a shady place where they will dry quickly. Iron wrong side out, and leave thus until mended. The stocking may be left straight in its entire length, or the foot be drawn smoothly into the leg as far as the heel. Turn right side out after airing and mending. Launder merino and silk hosiery as directed for silk underwear.



Wooden Stocking Form.

To Wash Blankets.

In washing woolens, the temperature of the waters used must be the same from first to last. It may be tepid, warm, or as hot as the hands can bear, but must not change from one to another. It is plunging from hot into cooler water that causes bad results. There are arguments in favor of tepid, rather than hot or cold, water. Warm water dissolves substances more readily than cold water does. Hot water is more likely to injure colors than warm water. The air in which wools dry is easier obtained mildly warm than hot. When ready to wash

the blankets, prepare two tubs of warm suds with a neutral soap and rain water, if possible. Punch the blankets about and squeeze, but do not rub, and do not rub soap on them. When the suds is soiled, wring the blankets and treat in the same manner in another suds, then rinse in soft water of the same temperature, and hang to dry at once. Wools must not freeze, and they must not be hot enough to steam. Pin the blanket on the line the long way so that the colors will run down their own lines, and put it over the line just enough to hold, in order that it will be exposed as much as possible to the action of sun and air. Having pinned it firmly on the line, snap it to make it straight as possible, and, when dry, fold exactly true the entire length. If one desires to use no soap, a pound of borax (dissolved) for every ten gallons of water should be used.

Things to Remember in Washing Wools.

Have all waters of the same temperature; use a neutral soap, with borax, or ammonia; use soft water, if possible; never let them soak in the water, or lie wet; never soap any wools while washing them; never rub wools in cleaning them; hang each piece out at once, and do not wash wools on a rainy day; never hang outside when they will freeze; do not hang where heat is great enough to cause steam; never iron while damp, or with a hot iron.

Theory for Shrinkage of Wool.

The wool fiber is marked by transverse divisions, like human hair, and these divisions are serrated. These teeth become tough and knotted together by rubbing by being treated with a strong alkaline water, by a sudden change in the temperature of water used, or by being brought into contact with a hot iron while still damp.

To Launder Silk Underwear.

Make a suds of soft water,—rain water is best,—and squeeze and knead the silk to remove the dirt. Wash one piece at a time, rinse, stretch into shape, and dry. When nearly dry, place between two pieces of muslin, and press with a warm iron.

To Wash Prints.

To keep colored clothes in good condition, set the colors, if possible, before wetting in soap suds. Set the colors as directed on page 37. What will set a color depends upon what that particular color has been dyed with. Repeat the process of setting colors each time they are washed if necessary. Wash the lightest colors first; do not rub soap on prints. Avoid much rubbing; squeeze and knead, mostly, rinse well, wring thoroughly, and dry quickly. If required to be but slightly stiff, have the starch ready, and dip at once, as the colors are apt to run if the articles lie wet. If they are to be very stiff, dry thoroughly first, or they will not absorb sufficient starch. If a black and white gingham has from any cause dried in streaks, the defects may be removed as follows: Soak the garment several hours in cold water, then wash, rubbing the stained parts well, rinse thoroughly, wring dry, and hang in a shady place where the wind blows briskly, that it may dry very quickly.

Precautions to be Observed in Washing New Prints.

1. Set the colors by soaking in a solution of sugar of lead or in a solution of salt and water—the former is surer.
2. Use soft, tepid water, mild soap and borax or ammonia.
3. Place one article in the tub at a time since soap suds is likely to impair the color of the fabric.
4. Knead and squeeze rather than rub.

5. When possible, rinse immediately and hang out. Otherwise soak in a pail of cold water until ready to rinse. Never let prints lie in the suds.

6. Hang in a shady, airy place to dry.

To Wash Colored Fabrics in Bran Water.

Bran water is used in laundering colored fabrics, as blacks, browns, etc., which are difficult to manipulate with starch. Bran water both cleanses and stiffens. To prepare bran water, put into a large saucepan, or clean, bright kettle, two quarts of wheat bran (measured without packing). Pour over this enough water to moisten well—not less than two quarts. Heat to the boiling point, and let steep for half an hour, then strain. If the article to be cleansed is much soiled, wash it first as directed for prints, then rinse the soap out, wring dry, put it into the bran water, and let soak ten minutes if the color will not run; but, if it does, squeeze the article to be starched between the hands in the bran water until it has penetrated to every part, wring medium dry, and hang where it will dry quickly, but not in the sunshine. When the article is but little soiled, cleanse by simply squeezing and punching it about in the bran water, and rinse in another bran water, prepared by re-steeping the bran used in the first place. Bran possesses considerable stiffening power and will bear using a second time, if it has not been rinsed out with water after steeping but has simply had the water drained off from it.

To Wash White Clothes.

Examine each piece carefully for any stains or frayed places that may have escaped notice. If a frayed place is found, draw the edges together, that it may not become worse. Remove any stains which may be present. When ready to wash, prepare a suds of rain water or softened

water. Have the suds moderately strong, and as hot as the hands can bear. Begin by putting the cleanest pieces, a few at a time, into the tub. Wash on the right side, then turn and wash on the wrong side, giving especial attention to the dirtiest parts, and rubbing only enough to remove the dirt. Fold with buttons and strings inside, and wring dry. Shake out, soap dirty parts, and boil and rinse. If any black or dark specks appear on the clothes, remove them as directed on page 33.

Blue or not, as desired. In the country, where there is clean air and bright sunshine in which to dry clothes, bluing is seldom needed, provided the clothes are properly washed. In the city there is usually dust and smoke in the air, and little opportunity for bleaching the clothes on the grass in sunshine and dew, and a little bluing in that case is sometimes beneficial. Hang all articles wrong side out, on account of dust. Hang wearing apparel by the thickest parts, that the water may drain out of these parts, and allow the article to dry quickly; also because the strain will be less. Handkerchiefs should be just caught on the line to prevent blowing away. Small linens and pillow cases may be hung in same way. Nothing must drag; when clothes are dry, take down, if wind is strong enough to switch them.

To Wash Table Linens.

Wring from the water in which soaked, shake well, and place a few pieces at a time in warm soap suds. Apply soap, and wash until clean, giving special attention to dirty spots, but be careful not to rub too much, as the linens are usually not very dirty, and hard rubbing injures the cloth. Change the suds as often as dirty. When the clothes are clean, put into tepid suds in the boiler, let reach the boiling point, and boil a few minutes, but do not allow to stop boiling after it begins, or the clothes will not

look so well when finished. Lift with a clean, smooth, wooden stick into a tub of clear tepid water, wash, and wring. Rinse in clear tepid water, fold smoothly, and wring; shake and hang up by spreading one hem over the line three or four inches deep, and fastening at each end, not less than three or four inches from the selvage, in order to avoid much strain on the corners and edges. Fold the other hem over to the same depth and on top of the first, but fasten in such a way that the second side will hang full, forming a bag into which the air can pass, and dry the cloth by blowing it out like a sail. Follow the same rule in washing all the different sets of linen, leaving the dirtiest till the last. If linen has good body, no starch is needed. In thin linens a little starch or gum arabic in the water gives a better looking cloth, but not enough of either must be used to make linen appear starched. The only object in using any stiffening agent is to prevent flimsiness. Iron when partially dry, if convenient; otherwise, take from the line as soon as thoroughly dry, because they will be injured by hanging long in the wind.

To Wash Colored Table Linens.

For colored table linens, soft water should be used, and they should be washed and dried the same as prints.

To Wash Doilies.

Prepare suds of rain water and neutral soap, or use borax instead of soap. If borax is used, one tablespoonful of powdered borax dissolved in a little hot water should be added to each gallon of water. The doilies should be put into the water one at a time, kneaded and punched until clean, boiled, if white, then rinsed thoroughly, laid on a towel, and, with another towel on top, be rolled up for a few minutes before ironing. They are rolled

in towels to prevent the colors staining other parts, and that the towels may absorb a little of the moisture, as doilies must be ironed very damp. Iron as directed on page 76.

To Launder Dish Cloths and Tea Towels.

There is such a thing as the dish cloth getting into such a condition as to need a label with skull and cross-bones, the same as other dangerous things about the house. It should be washed in the hands and dried each time it is used. When the weekly washing is done, take some soap suds in a separate small tub or basin, and wash the tea towels. Soap well, and put to boil in cold or tepid suds. Let this suds be strong with soap, and put in a tablespoonful of kerosene to each gallon of water. Keep a tin pail bright for this purpose. After the towels have boiled half an hour wash them, rinse, and put to dry, and take the dish rag through a similar course. It may smell of kerosene when first washed but take it wet from beneath the sink and it often smells worse. When the cloth is dry the odor of kerosene will have disappeared, and the cloth will be clean and sanitary. Some house-keepers prefer to do this part of the laundry work on a separate day, but it seems less trouble to accomplish it when fire, water, and all needed utensils are at hand. These articles need no ironing; just fold neatly and lay away.

REASONS FOR CLOTHES BECOMING YELLOW.

Lying long unused; drying in the house; imperfect washing; poor soap; impure water,—that is, water containing matter which stains the clothes, using too much alkali in softening the water, not rinsing thoroughly. These things are, under varying conditions, responsible for a yellowish tinge in clothes. Any woman with practical knowledge of cookery expects her biscuits to have

a yellow cast when an excess of soda is used. Why should she not expect a similar action on the clothes when an excess of a still more powerful soda is used?

BLUINGS.

There is a variety of bluing to be had. The three, indigo, ultramarine, and aniline blue, will serve to illustrate. Indigo blue is of vegetable origin, and has the deep blue color indicated by its name. It is easier to use than the ultramarine blue because it mixes more readily with the water, though it has not such a beautiful blue tint. Ultramarine blue is a fine powder, insoluble in water, and unless the bluing water is frequently and thoroughly stirred and attention given to sides and bottom of the tub, this powder may adhere, and spot the clothes. Aniline blue is derived from the coal tar series, and is the basis of most bottle bluing. Most bluing is not satisfactory when a bleach has been used which leaves a trace of acid in the rinsing water, as the acid tends to bleach the blue.

Bluing in ball or lump form should be tied in a cloth, from which it can be washed into the water. A powder should be mixed with warm water in a cup. Hot water causes some bluing to separate into fine particles, which are not visible when tepid water is used. Liquid bluing must be used with care, else the hands will soil the clothes. Accustom yourself to some brand of bluing that you find good, and then use that, for you will soon be able to judge by the appearance of the water when the right amount has been used, and you will know how to guard against its imperfections.

Precautions to be Observed in Using Bluing.

Do not use too much. The clothes should never have a blue cast. If a liquid bluing is used, pour in a little, stir and try it by putting the hand down in the water.

When you think it is right, try it with a white cloth before dipping any wearing apparel into it. Wring each article from rinsing water before putting through the bluing water, then dip and wring them one at a time. If the clothes are not shaken out before dipping, they may be streaked. If the water is not stirred well before the clothes are put in, the same result may follow, because some bluing does not dissolve, but settle in a fine powder on the bottom of the tub. If the bluing is not dissolved before being put in, there may be spots on the clothes. If the soap is not all rinsed out, there may be iron rust on the clothes, caused by the union of the alkali contained in the soap with the iron contained in some kinds of bluing.

STARCH.

Starch is obtained from the vegetable kingdom. It occurs in almost all plants at some time during their growth, though in small amounts in some kinds of plants. Its mission is to furnish a portion of the food needed for the growth of the new plant. In some cases it is stored in the ripe seed of the plant, as in the cereal grains, beans, peas, etc.; in others it is found in the stems, as in the sago palm; in still others, it occurs in the roots, as in the maranta, from which arrowroot is made. Tapioca is produced from cassava or manioc root. Some plants produce starch-bearing tubers, as the potato. Starch occurs in plants in the form of small granules. These vary in size and appearance in different plants. Some starch granules are two one-hundredths of an inch in diameter, others one three-hundredth of an inch. Some are round or oval, some angular, some smooth, while others seem to be composed of concentric rings; some have distinct markings on the surface, others none. Thus, by the aid of the microscope, one is able to distinguish the starches from different plants. A rough test can be made by cooking

equal amounts of the different kinds of starches in test tubes, using in each case, an equal amount of starch and water. A drop of iodine in each will show different shades of blue. Wheat starch produces a deep indigo color, corn, a lighter blue, and potato starch, a still lighter shade.

The Manufacture of Starch.

This beautiful, white, smooth powder may be produced from the potato by purely mechanical means. The potatoes are washed clean, freed from imperfect spots, and shredded by machines. They are then washed and pressed on sufficiently fine cloth to prevent the pulp going through, until the starch is all out. The starch is allowed to settle, and the water is then decanted. More clear water is added, and the starch washed and poured into a cloth thin enough to allow the small starch granules to fall through, but capable of keeping out all impurities. The starch settles, the water is decanted, clear water added, and this process repeated until the water is no longer colored. The starch is then dried. Starch is often made from corn and wheat in a manner similar to the following: The grain is soaked in water until soft, and then crushed. When the crushed mass is washed in a large tank of water, the hulls will rise, and can be removed from the surface of the liquid. If the remaining mass is washed in running water, the germs of the grain will sink to the bottom, and the water, carrying the gluten and starch, will flow on into another tank. Fermentation is allowed to proceed sufficiently to dissolve the nitrogenous matters, and thus render them separable from the starch, before the washings begin. In making starch from rice, the nitrogenous bodies are dissolved by treating the grain with a very dilute alkaline solution, which does not affect the starch. After a series of wash-

ings, the nitrogenous and other matters are all carried away by the water, to be used for other purposes. The starch is washed until the water is clear. The starchy water is strained each time it flows through a tank by passing over bolting cloth, which allows the starch to fall through, while the water carrying the refuse flows on. Corn flour is prepared from corn in a similar manner, and is simply corn starch by another process.

THE USES OF STARCH AND A COMPARISON OF THE VARIOUS KINDS.

Starch is used in the laundry to give clothes a better appearance, and to aid in keeping them clean longer. In textile work, starch is used to stiffen and make more beautiful the materials there produced. Starch for laundry purposes is made mostly from rice, wheat, corn and potatoes. According to Weisner, corn starch has the highest, and potato starch the lowest, stiffening power. Corn starch renders fabrics very stiff, so stiff that they will often break when bent. It gives a rougher exterior than some other starches but is satisfactory for ordinary purposes. It is usually cheap, costing much less than either wheat or rice starch in this country. Wheat starch renders fabrics smooth and flexible. Wheat starch and corn starch, mixed in the proportion of two parts corn starch to one part wheat starch, gives very good results, as the articles then have both flexibility and stiffness. This combination is much used in stiff-starching. Rice starch is regarded as having power to stiffen without giving a papery effect, and is also a favorite on account of its pearly whiteness. Rice starch is especially desirable for fine muslins, lace curtains, etc. Potato starch, though possessing rather low stiffening power, is excellent for ordinary purposes, and can be easily and quickly made at home.

Sago flour is used as a starch in calico and some other manufactories. Great Britain, France, and Belgium manufacture rice starch quite extensively, and it is very generally used in Europe.

Materials Used in Starch.

Borax and alum are used in starch to render thinner a starch which boils thick, that it may the more readily penetrate the goods. Bluing may be necessary, when borax is used, to give a clear blue white, though with some water it is not needed. Although the materials used in starch have little effect in the production of gloss, that depending largely on pressure and friction, many things are used for this purpose and to make the iron run smoothly. Among them are paraffine, lard, kerosene, Japanese wax, borax, gum arabic, etc. Those preparations which can be bought on the markets have directions for use given with them. White wax, alum, borax, etc., may be successfully used in the starch for polishing, by following directions given elsewhere. Keeping the irons clean, smooth, and bright will usually enable the ironer to produce satisfactory results without the aid of polishing materials.

Tinted Starches.

Starches of various colors may now be bought, and are useful in cases where white starch shows or where a tint has been removed by exposure to the air and the sunlight, as in the case of window curtains. Extra care is necessary in mixing such starches with the cold water, but they are made exactly as directed for starch for prints. If you wish a lighter tint than the starch gives, mix some white starch with it before making. If you wish an ecru color, use a pint of coffee to each gallon of liquid starch. A little saffron tea will produce a cream color, a decoction of logwood, a delicate pink, cold tea, the color of old lace, etc.

General Directions for Making Starch.

Most starches are insoluble in cold water, but will form a liquid of creamy consistency when combined with it. All starches must be thus treated, else there is danger of hard lumps after the starch is made. This is liable to produce rough surfaces with any starch, and with tinted starches will cause colored spots.

The starch and cold water should be thoroughly mixed before the boiling water is poured over them, and constantly stirred while the water is being slowly added. The stirring should be continued, until the starch is done. The starch grains will swell and burst, and the liquid will become clear with a few minutes' boiling. Starch grains will in time burst at a heat below boiling, but boiling makes the starch a little more concentrated, and clothes starched in it iron more smoothly and cause less trouble by the irons sticking. There are a number of ways of testing the strength of different starches. One is to place a small amount on the tongue, and allow it to dissolve, the starch requiring the longer time being considered stronger. Another way is to make starch and test its stiffening power. The latter is usually far more practical for the laundress.

To Make Starch for General Purposes.

Pour one-fourth cup of cold water over one-fourth cup of laundry starch and stir until smooth. Add to this one pint of boiling water, pouring slowly and stirring constantly to avoid lumps. Cook for a few minutes, stirring constantly. Remove from the fire, pour into a suitable vessel and add one cup of cold water. This makes a starch suitable for most purposes. If one desires a stiffer starch for use on ruffles on underwear, etc., the cup of cold water may be omitted at the last.

To Make Cold Starch.

To each cup of water use two teaspoonfuls of starch—a prepared starch is preferred for this purpose—and three or four drops of turpentine, if desired.

Turpentine is believed to make the iron run more smoothly. Borax is sometimes used, but is not essential to good results. Put the starch into a dish, pour on a little water, and mix well to prevent lumps, then add all the water.

To Make Starch for Stiff Starching.

Two generous tablespoonfuls of corn starch and one generous tablespoonful of wheat starch. Mix with sufficient cold water to give a creamy consistency, then pour on one pint of boiling water, and add one tablespoonful of kerosene and one-half a tablespoonful of lard. Let boil slowly for ten minutes, and stir often to prevent sticking at the bottom. When done, be ready to use it, and keep the saucepan containing it in hot water to prevent the starch from cooling, as it is much more readily absorbed by the cloth, while still hot. The above amount of starch is sufficient for three shirt fronts, six collars or four cuffs. If borax is used, take one teaspoonful of borax and half the amount of alum, dissolve in hot water, and boil with the starch. If white wax or paraffine candle is used, take what will equal one-eighth of an inch slice from a candle with the wick removed. When wax is used, add it as soon as the starch boils, and keep the starch stirred, but be careful about throwing particles of wax on to the stove. Wax sometimes causes specks over the linen when ironed, because it cools in small particles like grains of sand, and, when melted by the hot iron, shows under the surface.

To Make Starch for Prints.

Use four ounces (a generous half cup) of gloss starch to one quart of boiling water. Use one-fourth of a cup of cold water to moisten the starch to a cream, and see that all lumps are pressed out with a wooden spoon before adding the boiling water. Cook ten minutes, and add one quart of cold water. Borax is not necessary, but, if desired, use one teaspoonful to the above amount. Fabrics of any kind will be made stiffer by allowing them to dry before starching. Care must be exercised, to distribute the starch evenly through the fabric. A well-cooked starch produces more satisfactory results than one which has simply come to the boiling point. Starches vary so much in strength that the amount necessary can be only approximated.

To Make Starch for Dark, Plain Colored Fabrics.

The starch for plain colored fabrics, such as black, blue, brown, etc., should be tinted, as white starch will produce a grey, undesirable appearance. Tinted starches may be bought outright, or the white starch may be used and tinted with tea, coffee, bluing, crepe paper, etc., as the case demands. The starch is made as any cooked starch. Bran water may be used as directed on page 46.

To Make Starch for Curtains, Fine Muslins, Etc.

This is usually known as starch for "clear starching." Rice starch is considered best for such work because the desired stiffness can be obtained without the papery effect which some other starches impart to fabrics. Wheat starch is more desirable than corn starch for such work. Allow a generous half cup of the starch to each pair of curtains, moisten in half a cup of cold water, and add one quart of boiling water, stirring all the time. Cook ten minutes, stirring constantly, remove from the fire,

add one quart of cold water, and it is ready for use. If the starch is made according to these directions, it will need no straining unless it stands without a close-fitting cover. In that case it will need straining, because a scum will form over the surface. Be absolutely certain that the water with which starch is made is free from everything which might detract from the whiteness of the clothes. Sometimes clothes are whiter before ironing than afterwards. In this case, suspect the starch, or the thoroughness of the rinsing.

To Make Rice Starch.

Use one-fourth pound of rice and one quart of water. Cook until the rice forms a pulp, keeping up the quantity of water. Then pour in one quart of hot water and strain through a flannel cloth. Use rice starch for very thin things, such as handkerchiefs and baby clothes.

To Make Potato Starch.

If it is desirable to use a home-made starch, potato starch, made in the following manner, will be found very satisfactory: Scrub a large potato until perfectly clean, and pare and wash in clear water to remove any possible color. Then place in a clean bowl a quart of water, and into it grate the potato. Wash out the starch by rubbing the grated potato in the hands, and pour into a cheesecloth strainer. Let the starch settle, and pour the water off, then pour on more clear water, stir, let settle, and again pour off. With the white starch which remains in the bottom make boiled starch in the same manner as with any starch.

To Starch a Petticoat or Underwear of Any Kind.

Pour the starch into a clean vessel of suitable size, and add water, either warm or cold, until the starch is of the proper consistency. This must be learned by practice,

because starches have different degrees of strength. The finished article should be only moderately stiff, just enough to iron nicely. If it is too stiff it will rattle like paper at every step the wearer takes; if not stiff enough, it will not iron well. To give the most satisfactory results, dip the lower part—the trimmed portion—in such starch as will render it about the same stiffness as when new, and lay in the basket. If a petticoat, when through starching the lower part, dip the upper part in very thin starch. It will iron better, and stand out very little, if any, more than without starch. Drawers, nightdresses, corset covers, etc., should be without starch except on the trimmed parts, or, if desired, the other parts may be dipped in very thin starch to make them like new goods of the same kind.

To Starch in Cold Starch.

Moisten with water the portion of the garment just above that to be starched, to prevent its absorbing starch and becoming white. Stir the starch well and dip collars, cuffs, etc., dry. When clothes dipped in cold starch are thoroughly wet in all parts, fold them in a dry cloth, wrap another cloth around them, and let lie ten to twenty minutes, then wipe off all the starch possible with the dry cloth in which they were wrapped. If they are not thoroughly wet through, there will be limber places when they are ironed.

To Starch a Shirt.

Make starch as directed for stiff starching, and use a clean, bare, unpainted table to work on. Things for stiff starching should be thoroughly dried before starching. Have the shirt wrong side out, and rub starch on the neckband with the fingers. Then rub between the hands until the cloth is thoroughly saturated with starch. Rub

starch on the wrong side of the bosom, and rub between the hands until every thread of it is thoroughly wet. Treat the wristbands in the same way, and, when done, use a clean white cloth and wipe off all surplus starch. When well wiped, smooth out all wrinkles with the fingers, and hang the shirt up to dry. Have it hang perfectly straight by putting a stick through at the shoulders. If the rubbing is properly done, these will be as stiff as when they come from the laundry. Starch collars and cuffs the same way as shirts,—and do not bend in hanging, but hang by strings in the bottom holes, because if bent they will be limp in those places when dry.

To Starch Prints.

Turn each garment wrong side out, dip it in the starch, and see that every portion of it is saturated with starch water. Such garments should have the same amount of stiffness that the cloth had when new. If the garment is dry, make the starch thinner than when it is wet, and be sure that every portion is wet with the starch. Do not have the starch hot, as this may injure the colors. Wring each garment medium dry, and hang in the shade as soon as starched.

To Starch Thin Muslins.

Wring them dry from the rinsing water, and dip in rice starch to make them of the same stiffness as when new. Clap between the hands until dry enough to iron, if the articles are small; otherwise, hang out a few minutes, and for best results, iron as soon as dry enough to iron smoothly. If they are hung out, have them wrong side out, to protect them from dust, etc.

DAMPENING AND FOLDING CLOTHES.

When the clothes are dry, they should be taken from the line, put into a clothes basket and carried to the iron-

ing room. Articles of the same kind should be put together in the basket as far as possible. Each piece should be shaken when taken from the line, to free from all possible insects. The clothes may be folded smoothly as laid in the basket, if time permits. When ready to fold the clothes, line a basket with an old sheet or other white cloth to prevent staining, and see that there is a clean table large enough to allow an article of ordinary size to lie on it straight and smooth and that there is a basin of tepid water at hand. The hands and clothes of the person doing the folding should be perfectly clean.

To fold a tablecloth, put the selvage edges together, and fold smoothly along the length of the cloth. Fold again by putting the hems together, thus making a cross-wise fold. Lay the cloth on the table and dampen each side of the fold, then open and dampen the other parts well. Table linens must be well dampened, else they will not take a good gloss when ironed. When the cloth is dampened all over, refold, roll up, and lay in the basket. Sheets are large and rather unwieldy for one person to fold. To fold a sheet properly for ironing, take the wide hem in the right hand and the narrow hem in the left, and fold them together. Lay the sheet as folded smoothly on the table, with the hems toward you. Fold it again so that the folded edge now opposite the hems will lie on them. The sheet is now folded twice crosswise. Fold again by putting the selvages together, hems inside. Dampen both inside and outside the fold, roll the sheet up, and lay in the basket. Sheets and underwear should be dampened just enough to iron well, for, if very damp, they require unnecessary work in ironing, and it also takes longer for them to become perfectly dry before being laid away.

Clothes may be turned or not before dampening. If

they are put in the basket wrong side out, accidental smut or stain does not mar the right side, but it takes a little time and care to turn them before ironing. Use warm water for dampening, because it spreads more rapidly. See that the dampening is done evenly. If the hand is used, let the sprinkles be made as fine as possible. To dampen table napkins and things of single width, lay them on the table, the edges even, and selvages together. Sprinkle the upper one, and pull aside, then sprinkle the next, and so on. When all are done, lay together again, and roll tightly, with a towel or white cloth on the outside. Prepare pillow cases, toilet towels, etc., in the same way. Bath towels need no ironing except to brush or comb the fringe, and smooth the plain strip between this and the body of the towel with a moderately hot iron. Such towels are intended to be rough, and the fluffier, the better. Simply smooth with the hands. Dampened clothes should set over night, or for several hours, until evenly damp in every part. Do not put colored clothes near the white ones, as they may stain them. Do not dampen anything that has colors which may run. Let such be ironed before it is entirely dry, or dampened only a short time before ironing. Where an article has colors which may run into other parts of it, like the border of a towel, lay it on a cloth, place a damp cloth over it, and roll up. When all the clothes are folded, lay the covering over the basket, and set away until ready to iron. Do not let damp clothes lie folded longer than necessary in summer, as starched clothes mildew readily. If unable to finish the ironing, shake out the articles which are left, and dry them. Clothes thus treated never look their best unless washed again, but this treatment is less objectionable than mildew.

To Dampen a Shirt.

When perfectly dry, take from the line, turn right side out, wring the upper part of the back (not including the neckband) from hot water, and lay smoothly over the bosom. Wring the lower part of the front moderately dry from hot water, and turn up over the bosom. Lay the wristbands in such a way that the wet portion will cover them. Roll the shirt up tightly and let it lay over night. It will not seem to the novice to be damp enough, but it will smooth out with heavy pressure, and if made damper, will often blister.

To Dampen a Shirt Another Way.

Sprinkle the unstarched part or body of the shirt slightly. Procure a piece of muslin a little longer and a little wider than the shirt front. Wring it from hot water, place on the front, lay the wristbands out straight over it, and put a narrow wet cloth over each of them the same as on the front. Fold the sleeves over on the front, and the skirt over these. Put in a press, or fold, and let lie several hours.

To Dampen Collars and Cuffs.

Dip a clean white towel in hot water and wring moderately dry. Lay a collar straight on the towel and turn one thickness over it. Put on another collar, and turn the towel over it, and so continue until all are in. Keep straight, and, when ready to iron, take out just one at a time. Starched things should not be damp enough to stick to the ironing board. If they blister when ironed, it indicates that they are too wet and the dampening cloth should be wrung a little drier next time.

It is very important that things done in stiff starch have a uniform dampness. When they are too wet they are much less stiff when ironed than before. If they are

too dry it is impossible to smooth them. They must be just damp enough to smooth under heavy pressure. It is better to lay both collars and shirts out straight as directed in dampening, and put under weight over night, when possible, as dampness goes through them better. Dampening machines are used in commercial laundries, and uniform dampness is thus secured, but at home one must learn by practice just how damp to wring the dampening cloths. Use the same ones always, as a cloth of different thickness might puzzle you as to the moisture necessary.

To Dampen a Shirtwaist.

Wrap the portions done in stiff starch in damp white cloths the same as shirts and collars. Dampen the remainder of the garment in the usual way, and roll up. Things done in corn starch will dampen in a shorter time than those done in rice or wheat starch.

To Dampen Heavy or Dark Colored Articles.

Wring an old sheet or something of the kind from warm water; place the article to be dampened on the table; lay the wet sheet over a portion of it, fold a part of the article back onto this, cover this with another part of the sheet, and continue until the surface of the article is completely covered by the wet sheet. Then roll into a smooth firm roll,* having the outside covered with a damp cloth. Let lie over night, when it will be ready to iron. This may seem like a tedious process, but it insures an even dampness, and prevents the article from appearing spotted when ironed.

CHAPTER V.

IRONING.

GENERAL DIRECTIONS FOR IRONING.

The object of ironing is to make clothes look better and stay clean longer. Make ironing day come as soon as possible after washday, that the clothes may be aired, mended (if they need it), and put away before they become soiled. Have the ironing table ready, the irons clean and hot, and everything you expect to use at hand except the iron, before you take the article to be ironed from the basket. When ready, take the piece to be ironed from the basket, turn, if it needs it, and place ready for ironing. Then get the iron, rub it quickly, see that it is not too hot, and begin to iron. The iron will need but a stroke or two over a white cloth to show that it is ready for use, if you had it clean when put to heat, and have regulated the fire properly during the heating. Iron muslins on the right side, and prints on the wrong side. Do not have them too dry, or the surfaces will be rough, instead of smooth and glossy. Iron with the threads of the goods, and iron dotted muslins and embroideries on the wrong side. Have the iron as hot as it can be used without scorching for table linen and muslins, but for prints have only a medium heat, as heat injures some colors. Use a heavy iron for plain, straightforward work, as in table linens, sheets, and pillow cases but for gathers, small articles, and ruffles use one which is lighter and less hot. Move the iron rapidly over long, smooth surfaces, but more slowly over gathers, etc. Put a goodly amount of pressure on the iron, and do not raise it from the cloth, but move it quickly and evenly over the sur-

face to be smoothed. When a wrinkle is made in ironing, dampen it again in that place with a wet cloth and smooth out. Be careful not to crush the other parts as the article is moved about or another part ironed. Always iron in a good light, to insure good work, and never set the iron, for an instant, on the ironing sheet. Ironing should be done rapidly, otherwise much time is spent in changing irons, and the fabric dries out too much before it is finished. Things must be stretched into shape while damp, and ironed into position. This is especially true of dress skirts. All articles should be hung on the rack that they may be thoroughly dried before putting away, and should remain there until mended. Do not iron creases in the goods except where necessary, as they often mar the appearance and cause the threads to break sooner. Almost all things look better and stay clean longer without creases, but must be folded somewhat to make them convenient for laying away. As far as possible, fold so that no part is crushed, keep all tapes, etc., out of sight, and let the trimmings show as much as possible without affecting the general plan. Let the garment, when folded, be pleasing in general appearance, and of a size to fit the space for keeping it.

Fluting, Crimping and Goffering.

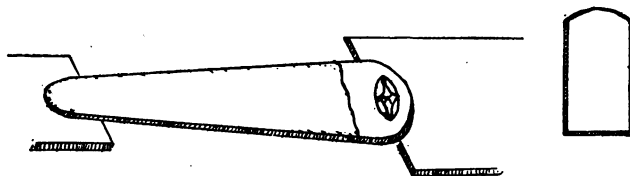
Fluting and goffering are done with irons made for the purpose. These are described in the remarks on irons. Both fluting and goffering are used on ruffles or embroidery when not put on very full. Crimping is similarly used, and is done with a common iron by setting the iron on end, stretching the ruffle to be crimped over the point of the iron, thus crimping a small part at a time.

Ironing Table.

The ironing table should be firm, smooth, and steady,

and of a height to suit the ironer. It is easier to work if one is above the iron, so that extra pressure can be brought to bear if necessary. The table should be covered with at least two thicknesses of some soft, heavy material, like a woolen blanket. This should be secured underneath by strings, and the table should be long enough so that it can be left bare about a foot at the ironer's right to give a place for the iron stand, waxed cloth, dampening cloth, iron holder, etc. When the blanket or cotton felt is smooth over the top of the table and well secured underneath, put on a heavy cotton cloth, and secure it, being careful to have a perfectly smooth surface. There should be no seam or patch on the ironing blanket or sheet, at least, on the surface over which the iron will pass, as this will make a depression on the article ironed, and mar its appearance. The cover should be removed and washed whenever soiled.

Ironing Board.



Ironing Board.

An ironing board is made according to the directions given below for a skirt board, only larger in all dimensions.

Skirt Board.

A skirt board should be about five feet long, a foot and a half wide at one end and six inches at the other, if but one board is used, otherwise it may be wider at the small end. The skirt board should be covered the same as the ironing table, and the small end neatly prepared

for children's wearing apparel. Unless a skirt board can be made so that it will stand positively firm, and stay so, better have it without support, and rest it on tables or chairs.

Bosom Board.

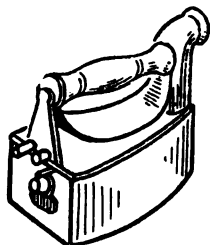
A bosom board should be about one foot and a half long and a foot wide. The covering should be stretched tightly over this, and should be elastic rather than hard. Launderers generally use a sheet of rubber, similar to rubber belting, next to the board, and on this put felt, a blanket, or something of the kind, then an ironing sheet on top.

Irons.



Irons are of several kinds. Flatirons, or sadirons, are made of iron, with iron handles attached, but are faced with steel. They hold the heat well, and are probably best for all general work. Irons of six to eight pounds weight are desirable for strong women, but a child should have a lighter iron. There are patent irons which have a more or less polished surface over the entire iron. These are furnished with adjustable wooden handles. Such irons are easier on the hands, and are

preferred by some, but do not hold the heat as well as a sadiron. This variety comes in sets of three irons each, and is not very expensive, though more so than the common sadiron. Another variety is called the "box iron." This iron has a steel-faced shell, into which an adjustable iron slides when heated. One box, or outside piece, and two bolts, or inside pieces, form a set. While the ironer uses one, the other heats, and thus the iron is always clean, so far as dust, ashes, and smoke from the fire are concerned. Box irons are more expensive than common irons, and require care in heating, as they are injured by too great heat. They are not recommended if economy must be considered. Another style of box iron has a charcoal fire inside, but the fumes of charcoal are unpleasant if one has much ironing to do. There are several kinds of alcohol irons, all more or less successful and useful in pressing and doing light work. Whether they are practical for general ironing is still an open question.



Iron Heated by Charcoal.

There are on the market at the present time several kinds of gas irons. The most common is probably that consisting of an iron fitted with a long India rubber tube through which the gas may be conducted from the gas jet. A little more complicated device for the use of gas consists of two irons, weighing six or seven pounds apiece, and a heating rod. The heating rod may be secured to any table and attached to a gas jet by a rubber

face to be smoothed. When a wrinkle is made in ironing, dampen it again in that place with a wet cloth and smooth out. Be careful not to crush the other parts as the article is moved about or another part ironed. Always iron in a good light, to insure good work, and never set the iron, for an instant, on the ironing sheet. Ironing should be done rapidly, otherwise much time is spent in changing irons, and the fabric dries out too much before it is finished. Things must be stretched into shape while damp, and ironed into position. This is especially true of dress skirts. All articles should be hung on the rack that they may be thoroughly dried before putting away, and should remain there until mended. Do not iron creases in the goods except where necessary, as they often mar the appearance and cause the threads to break sooner. Almost all things look better and stay clean longer without creases, but must be folded somewhat to make them convenient for laying away. As far as possible, fold so that no part is crushed, keep all tapes, etc., out of sight, and let the trimmings show as much as possible without affecting the general plan. Let the garment, when folded, be pleasing in general appearance, and of a size to fit the space for keeping it.

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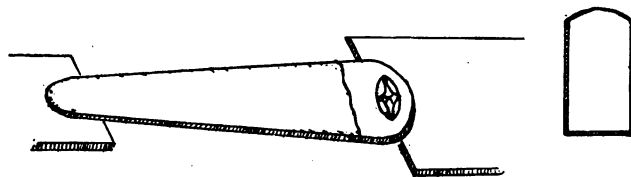
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Skirt Board.

A skirt board should be about five feet long, a foot and a half wide at one end and six inches at the other, if but one board is used, otherwise it may be wider at the small end. The skirt board should be covered the same as the ironing table, and the small end neatly prepared

Heating the Irons.

Irons may be heated before a bright wood fire, on top of a stove, over a gas flame, a kerosene flame, or by electricity, etc. When set before a wood fire, irons heat well, but require frequent cleaning on account of the dust and ashes which are constantly coming in contact with them. They heat very well on the top of the kitchen range, but it must be made perfectly clean and free from polish where the irons set. It is well to use an extra covering made for the purpose when heating irons on the range. There are small laundry stoves which are economical to use if one needs a fire for nothing else. They are so arranged that the irons set on the sides and heat with less fuel than is required in a range. The blue flame of the kerosene oil stove or the gasoline stove makes a nice fire for summer ironing. A kerosene stove, like a lamp, must have wicks and burners kept perfectly clean, else it will not heat well, and will smoke the irons. Smoke or dirt of any kind that cannot be easily removed must be assiduously avoided, as, when present, these defeat the ironer's purpose. Gas and electricity give nice, clean irons but are expensive fuels. When heating irons over gas, remove after they have been over the fire a little while, and wipe off the moisture, which will roughen the surface somewhat if allowed to remain, and will also soil the clothes. The same is true of heating irons on gasoline or kerosene stoves. When ironing, rub the iron in salt each time before putting it again on the fire to heat. If you do not attend to this, the starch may burn on the surface of the iron and mar the clothes. Have on the salt board a coarse cloth with shredded wax (either beeswax or white wax) dusted lightly between its folds. When the iron is taken from the fire, rub first on a damp cloth, then hurriedly

on the wax cloth, then on a clean paper or cloth. When ironing starched things, the sides as well as the bottom of the iron should be rubbed. This may seem like much trouble, but better insure success than be compelled to wash an article again because careless about the irons.

A sheet iron device in the form of a circular pan with a handle at the top, placed over the irons, by whatever means heated, will save fuel. In the absence of something especially prepared for the purpose, some household article of this nature may be pressed into use.

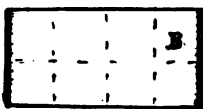
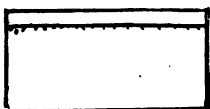
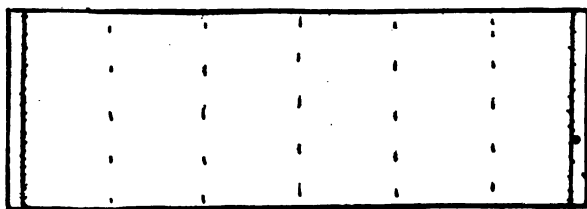
The Care of Irons.

When through ironing, do not allow the irons to stand on the stove to cool, as such treatment will make them rough, but set off on the zinc, let stand on end until cool, and then put away in a dry place. They keep in better condition if set in a warm place, also, because this keeps moisture from collecting on the outside, and they are not so likely to become rough and rusty, nor do they require to be wiped off so often when heating. If irons are to be left unused for weeks or months, grease the polished surface with unsalted fat to prevent rusting. When an iron becomes rough from rusting there is nothing which can be done at home to smooth it. When the irons need cleaning, rub the polished surface with bath brick, then wash the entire iron with soapsuds, and wipe dry.

GENERAL IRONING.

To Iron Table Linens.

Prepare the table in the same manner as directed for ironing in general. Take the tablecloth from the basket, where it has lain over night, or for several hours until thoroughly dampened, and stretch. In stretching a tablecloth for ironing, two persons are necessary. Each should take an end of the cloth, and see that the

**To Fold Napkins.****To Fold Table Linens.**

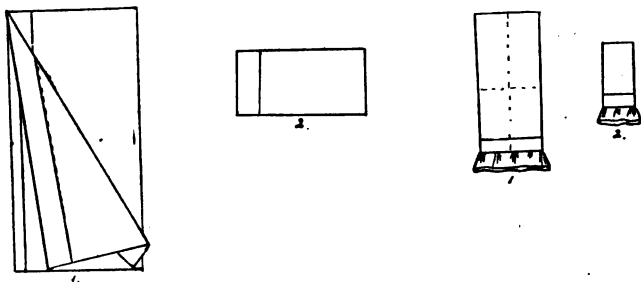
selvages are even, and then stretch the cloth until the two hems are exactly even the entire width, when the cloth is folded in the center lengthwise. This is done by putting a hand on each edge at the selvage, and gently stretching the threads, taking the fullness up in the hands as you proceed to the center. Have the table ready, and everything needed at hand. Put a clean table against the ironing table, on the side opposite you. Unroll a portion of the tablecloth, lay smoothly on the table, folded once lengthwise and selvages to the right, and with a heavy, clean iron press hard on the right side, keeping the edges straight, and iron until nearly dry, but not entirely so. else the other side will become too dry. Proceed to the center, then turn the cloth around, so that it will lie on the extra table, and iron again to the center. If the cloth is kept perfectly straight as ironed, there will be no fullness when the center is reached. If there is fullness,

stretch and iron it out before beginning to iron the under half of the cloth. When one side is ironed, turn the cloth over and iron the other side in the same way, and so proceed until the cloth is dry. Table linen must be ironed dry in order to have it look well, and to prevent its mussing when laid away. The cloth is creased lengthwise, and, if desired, another crease may be ironed in at the center by putting the two ends together, but no more creases should be made. Simply fold the cloth and lay away. If the cloth is to be rolled, no second crease should be made, but when the cloth has been ironed on both sides until smooth and dry, it should be rolled on a roller made for the purpose, or on a roll made from paper. To make a paper roll, sheets of paper which will make a roll at least three inches longer than the width of the doubled cloth, and three inches in diameter should be used. Roll the paper just moderately tight, as the cloth rolls easier if the pad is not too hard. To roll a cloth, lay the paper roll on the end of the cloth next you on the table, see that it is even, and roll a little, smoothing with the iron in front of the roll, and frequently lifting the cloth, to avoid undue fullness and have straight when finished.

To Iron Napkins.

Napkins, like table linens, must be ironed while very damp. Take the roll of napkins from the basket, remove one and lay the rest in the basket again. Fold the selvages of the napkin together and stretch until perfectly straight. Spread out on the table, and with a heavy, hot iron press first on the right side, then on the wrong, until perfectly smooth, then double and see that the edges are straight, and iron a crease in the center, put the two hems together and iron another crease in, or simply double without creasing after the first fold. The fewer creases there are, the handsomer the napkin appears when used. Nap-

fold and lay away, but if not dry, hang unfolded and allow to dry.



To Fold Sheets and Pillow Cases.

To Iron Pillow Cases.

Shake the case well, see that it lies even along the seam, put it on the table with the seam to the left, and the hem at the edge of the table. Press the hem on both sides until perfectly smooth, then iron the case from edge to edge on both sides, fold in the center lengthwise, and then in such folds as will make the case of convenient size for laying away. Ironing from side to side is an exception to the rule as regards ironing with the warp threads, but in this particular instance is productive of good results, and saves time. If there is trimming, whether embroidery, hemstitch or lace, iron according to the rules already given.

To Iron Pillow Shams.

Pillow shams should be dipped in thin starch immediately after being rinsed. When ready to iron, press the ruffles first, if there are any, then iron the other parts the same as a pillow case, giving special attention to the fronts in case the sham is lined. Use a small iron in ironing the plain part, to prevent flattening the embroidery as you iron near it. Turn the sham over, loosen from the back, and with a heavy iron press the embroidery on the wrong

side so that it will stand out well. Smooth the back part near the border, and put a bosom board inside, that the back may be carefully ironed without crushing the front. Dry without folding. An unlined, embroidered sham should be ironed in the same manner as directed for embroidered linens. Care should always be taken to iron the hems perfectly dry, and the sham should never be folded.

To Iron Toilet Towels.

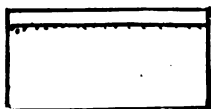
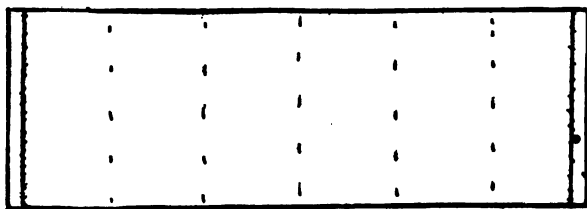
Fold evenly through the center lengthwise, iron on both sides, and fold. If the towel has a fringe, shake this out well, comb with a clean brush or coarse comb and trim even with the scissors. Do this before ironing the towel. Iron kitchen towels the same as toilet towels. Bath towels, tea towels and dust towels need no ironing.

To Iron a Petticoat.

A petticoat may be dried before starching if desired. In this case have the starch a little thinner than for a wet skirt. Starch the trimmed part, hang the skirt out, bring it in when the starched part is of the right dampness for ironing, sprinkle the top, and fold. Pin papers together so that they will not become displaced, and lay them on the floor under the ironing board. See that the ironing sheet is clean. If there is a plain strip at the bottom of the skirt underneath the ruffle, iron this first, then put the skirt on the board wrong side out, with the band to the left. Let the skirt fall loosely and lie on the papers on the floor. If the trimming is embroidery, pin a strip of cotton felt over the ironing sheet before putting the skirt on, and cover this with a piece of muslin securely fastened. Stretch each scallop of the embroidery with the hands, and iron on the wrong side until perfectly dry. If the trimming is lace, this should be pulled into shape with the fingers, the ruffle ironed on the right side to gloss it, and



To Fold Napkins.



To Fold Table Linens.

selvages are even, and then stretch the cloth until the two hems are exactly even the entire width, when the cloth is folded in the center lengthwise. This is done by putting a hand on each edge at the selvage, and gently stretching the threads, taking the fullness up in the hands as you proceed to the center. Have the table ready, and everything needed at hand. Put a clean table against the ironing table, on the side opposite you. Unroll a portion of the tablecloth, lay smoothly on the table, folded once lengthwise and selvages to the right, and with a heavy, clean iron press hard on the right side, keeping the edges straight, and iron until nearly dry, but not entirely so, else the other side will become too dry. Proceed to the center, then turn the cloth around, so that it will lie on the extra table, and iron again to the center. If the cloth is kept perfectly straight as ironed, there will be no fullness when the center is reached. If there is fullness,

stretch and iron it out before beginning to iron the under half of the cloth. When one side is ironed, turn the cloth over and iron the other side in the same way, and so proceed until the cloth is dry. Table linen must be ironed dry in order to have it look well, and to prevent its mussing when laid away. The cloth is creased lengthwise, and, if desired, another crease may be ironed in at the center by putting the two ends together, but no more creases should be made. Simply fold the cloth and lay away. If the cloth is to be rolled, no second crease should be made, but when the cloth has been ironed on both sides until smooth and dry, it should be rolled on a roller made for the purpose, or on a roll made from paper. To make a paper roll, sheets of paper which will make a roll at least three inches longer than the width of the doubled cloth, and three inches in diameter should be used. Roll the paper just moderately tight, as the cloth rolls easier if the pad is not too hard. To roll a cloth, lay the paper roll on the end of the cloth next you on the table, see that it is even, and roll a little, smoothing with the iron in front of the roll, and frequently lifting the cloth, to avoid undue fullness and have straight when finished.

To Iron Napkins.

Napkins, like table linens, must be ironed while very damp. Take the roll of napkins from the basket, remove one and lay the rest in the basket again. Fold the selvages of the napkin together and stretch until perfectly straight. Spread out on the table, and with a heavy, hot iron press first on the right side, then on the wrong, until perfectly smooth, then double and see that the edges are straight, and iron a crease in the center, put the two hems together and iron another crease in, or simply double without creasing after the first fold. The fewer creases there are, the handsomer the napkin appears when used. Nap-

kins may be ironed as doubled when stretched, the same as tablecloths are ironed.

To Iron Fringed Napkins.

Fringed napkins, towels, etc., should have the fringe straightened and disentangled as much as possible before beginning to iron them, as it is unmanageable when dry. After straightening as much as possible, lay on the table, brush or comb until straight, and trim the ends of the fringe with the scissors. Unless the fringe is very much matted, a stiff brush is better than a comb. When the fringe is done, dampen the other part of the article again if too dry, and iron on the right side.

To Iron Embroidered Linens, as Doilies, Etc.

Add to the covering of the ironing table some soft, flexible material, as new Canton flannel, and over this put a white covering of not very coarse material, because, if the covering is coarse, the prints of the threads will be seen on the linen when ironed. See that the coverings are smooth, tightly drawn, and well secured. The table should be prepared as soon as the doilies are all rolled, for they do not need to lie long. When ready to iron them, use a heavy, moderately hot iron, and press hard, ironing the doily on the wrong side, and always with the threads of the linen. Iron from edge to edge, if the doily is a square one, having the hem parallel with the edge of the table. Press with the hands until the doily is straight, then iron, pushing the iron from you when possible. Ironing with the threads and pushing the iron from you will keep the doily straight, and ironing on the wrong side over a soft padding will make the pattern stand out. In ironing round or oval pieces, iron from the center outward each time, carefully following the line of the threads, and being certain that no appearance of full-

ness is given and that no creases are made. Pieces having lace edges should have the linen portion ironed first. The lace is then ironed on the wrong side, with the reversed iron, carefully, to keep it in its original size, and to avoid stretching in points. All such things must be ironed until dry, and left without folds. Toilet covers and sideboard cloths should be ironed straight and smooth by applying the above rules, and either folded lightly and laid away, or rolled. They lie much smoother and look better without folds in them. Monograms on linens should be ironed on a very thick pad and on the wrong side. The linen should be so folded that the monogram is out. Drawn work in linen requires especial attention as this part tends to shrink more than the rest. See that the edge of the piece is straight with the edge of the table, then gently rub, persistently stretch and iron to its original form. Stretch the drawn work from the underside and persevere, dampening as necessary, until hem, intervening spaces and drawn work lie even.

To Iron Bed Spreads.

Stretch into shape, press on the wrong side with a heavy hot iron, leave folded one-fourth its full size, and hang on the line or clothes horse until thoroughly dry. Thin or light-weight spreads should have a very little starch,—not enough to produce stiffness but to give them body.

To Iron Sheets.

Sheets, like tablecloths, should be stretched into shape by two people. When ready to iron, lay the sheet on the table, with the short fold parallel with the edge of the ironing table, and the hems to the left. Carefully iron both surfaces of this fold, then turn so that the wide hem is outside and iron the narrow hem. If perfectly dry,

the lace then ironed on the wrong side, that the pattern may stand out. If there is insertion on the skirt, pull this straight, and iron both it and the plain part until smooth and dry. In all cases where tucks and insertion occur together iron them both with their length, a little at a time. Tucks should be stretched until straight and ironed until dry, passing the iron over a few tucks at a time. In ironing tucks, if in a ruffle, one must follow the line of the tucks and the hem, but, if the tucks are on the skirt proper, they can be more easily done and be made to look better by stretching well and then ironing across them from top to bottom. In either case iron only a small portion at a time, and iron it until dry before proceeding farther. In ironing a plain ruffle, iron straight with the threads and well up into the gathers; iron the headings and any thick parts until dry. When the trimming is ironed, turn the petticoat right side out, remove the extra coverings put on the board for the embroidery, put the skirt on the board as before, and iron lengthwise of the skirt as long a strip as you can each time, keeping it smooth near the trimming by giving a few strokes across the board if necessary. Iron well up into the gathers when the top of the skirt is reached. Remove from the board, and iron the band until dry. When done hang on the rack until perfectly dry before putting it away. If the plain part of the skirt becomes too dry during the ironing, dampen it with a wet cloth.

To Iron a Corset Cover.

First iron the trimmings according to directions given in ironing a petticoat, then iron neckband and armholes or sleevelets until dry. Then place the garment on the table with the neck to the left. Use an iron of medium weight, begin at the bottom, being careful about the buttons, and iron only to the first dart, then straight on to the top,

keeping the front edge of the garment parallel with the edge of the table. Move the garment over, so that the dart is even with the edge of the table, and iron to the next dart. Move this dart over even with the table's edge and iron to the side seam, then finish the front at the top. Iron the back, then the other front. Iron the buttonhole hem on both sides until dry, and use a small iron on the button side, that the space between the buttons may be made smooth. The object in thus ironing a corset cover is to keep it in good shape. A gathered corset cover is much more easily ironed, the only precautions necessary being to iron with the thread, well up into the gathers, and until perfectly dry.

To Iron a Pair of Drawers.

First iron the trimmings according to rules already given, then place the drawers on the table with the band next to you and iron on both sides until smooth. Iron the tapes, if there are any. Lay the drawers on the table front side up, band to the left. Straighten the leg next to you, and iron the flat part smooth, then with a smaller iron work up into the gathers. When done, iron the portion next the trimmings again. Pull the garment over within reach, and iron the upper side of the other leg, in the same way, then turn over, and finish both legs. Iron all hems on both sides.

To Iron a Combination Suit.

Lay the suit on the table, front up, and neck to the left. Iron the trimmings as previously directed, and the hems or facings on both sides, to make them perfectly dry. Iron the part above the waist in the same manner as a corset cover, and that below, in the same manner as a pair of drawers, being as careful as possible not to muss one part while ironing another.

To Iron a Chemise.

Lay the chemise on the table with the neck to the right. Stretch out the scallops of lace or embroidery, if any are present, and iron on the wrong side, unless the lace is attached to a frill, which cannot be smoothed by ironing on the wrong side. Next iron the neckband and sleevebands on both sides until smooth and dry. Use a small iron for the inside of the sleeves and for gathers. When the upper portion is done, put the chemise on the ironing board, and iron it according to the special rules given for ironing a petticoat. If any goffering or crimping is to be done lay the garment on the table for this work.

To Iron a Night Dress.

Lay it on the table with the neck toward you, iron the trimmings first, then iron the yoke and hems or facings on both sides. Fasten the nightdress down the front, put it on a skirt board, and iron the lower part, or lay on the table with the neck from you, and iron from the bottom up on each side. Fold the two sides evenly together, lay the garment on the table with the neck to the left, and back towards you. Lay the sleeve which is uppermost back out of the way, and iron the upper side of the other, mussing the body part of the gown as little as possible. When the upper side of both sleeves has been ironed, turn the nightdress with the neck to the right, to enable you to iron the under part of the sleeves most advantageously.

To Iron Pocket Handkerchiefs.

Have them quite damp. Fold them in the center and stretch into shape, then unfold, and iron on both sides. Fold them lengthwise, then crosswise, then to a size convenient for laying away. Do not iron any creases in, simply fold.

To Iron a Shirtwaist.

Lay the shirtwaist on the ironing board with the neckband directly in front of you and parallel with the front edge of the table. Stretch the neckband until smooth, iron a little on the right side, then on the wrong, finishing on the right. Proceed in the same manner with the wristbands and any stiffly starched plaits or bands. Ironing on the right side, then on the wrong, imparts a smoothness and gloss to the material, which ironing on the wrong side first sometimes fails to do. If the waist is of print, however, it is best to iron it on the wrong side, as this gives it more the appearance of a piece of new goods. When the neckband and cuffs are finished, lay the waist on the board with the neck to the left, and iron the fronts, then the back. It is best to iron both fronts first, because they are often trimmed, and will look better and iron easier if not allowed to become dry. The back, if too dry, being plainer, can be dampened with a cloth wrung from warm water. Iron well into the gathers and until dry. Do not iron across the seams but close to them on either side, then press the seams by setting the iron directly on them. To iron the sleeve, fold at the seam and begin ironing at the seam side, being careful not to iron across the opposite fold, and thus form a crease. After ironing one side, loosen the two sides by slipping the hand between them, then turn the sleeve over and iron the other side. Now put the hand in the sleeve at the bottom and turn it so that the seam lies on the table and the unironed strip at the back or outside of the sleeve lies above it. With a small iron smooth out this portion, and, still using a small iron, slip it inside of the sleeve at the arm's eye, with the point towards the arm's eye, lift it up and examine to be sure that the cloth lies smoothly and iron the top of the sleeve in the gathers. If

possible, iron the gathered portion at the cuff in the same way. If the shirtwaist has small frills down the front, goffer them last. A waist of thick material needs starch only down the front, and in the collar and wrist bands:

To Iron a Lined Waist.

A lined waist must usually be ironed on the right side, but if the lining is very thin, and the outside is left loose from it at the bottom, the waist may be ironed on the wrong side, if it seems best. When the lining and the outside are sewed together, first iron on the lining side, then the yoke or the part about the neck and shoulders on the right side. Turn the waist on the board so that the neck lies to the left, and iron the front, using a small, medium hot iron. Iron only a small portion at a time, then lift the iron and set in a new place. Do not slide it over the garment. Iron from the neck towards the under-arm seam as far as possible, then iron the part under the arm, working towards the front until it is finished. Proceed in the same manner with the other front, then iron the back, and lastly the sleeves. Iron the sleeves as directed in ironing a shirtwaist.

To Iron Dress Skirts.

The ironing of linen skirts is especially tedious, as each part must be stretched to the proper length, (the measure of the length in each part having been taken before the skirt was wet) and ironed a little at a time. In ironing an ordinary skirt, no stretching is necessary more than to make smooth, if the ironer is careful always to follow the thread of the warp and to use a heavy iron, thus avoiding stretching bias parts out of shape. When ironing a skirt with ruffles, iron the lowest one first, and turn that back while ironing the others. To avoid a wrinkled appearance, all bands, hems, and seams should be ironed until

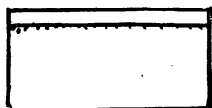
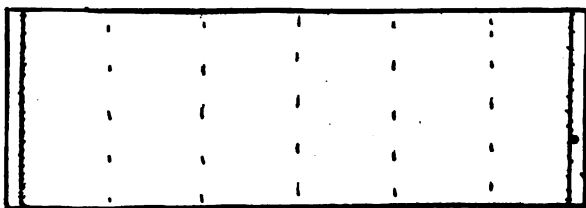
dry. Iron around buttons, never over them, as this will break or mar them, and is likely to wrinkle the goods. Be careful not to mash hooks with the iron.

To Iron a Heavy, Colored, Cotton Dress Skirt.

Dampen the skirt according to directions given for such articles on page 64. Have ready a perfectly smooth ironing board. Cover the floor beneath the board with papers or an old sheet, to prevent the skirt from becoming soiled. Have the iron hot enough to smooth the goods well, yet not so hot as to scorch when it must be moved slowly, as in ironing close up to the seams. Press the hem, that is, place the iron in one spot, leave it there until that spot is dry, then lift it, place it on another, and so proceed until the hem between two seams is perfectly dry. Then iron the space above the hem and between the seams, always running the iron with the straight of the goods, and ironing close up to the seam. When the space on both sides of a seam has been ironed, the seam should be pressed flat in the same manner that the hem was pressed. If the skirt is plaited, put the hand under, turn the plait back, iron the part which lies under it, then put the plait back in place, and press it, not rubbing the iron back and forth, but simply setting it down, leaving it a moment, then lifting it again and so on. If any part of the skirt becomes too dry to iron well, during the process, dampen anew a piece of the dampening cloth, lay it over the dry place, press closely to the skirt, then remove it, and iron. When the body part of the skirt has been finished, press the waist band until dry, and if necessary go over any especially thick places again, for if the least bit of dampness is present in any part of the garment it will cause wrinkled places to appear after it has hung awhile. Pin the back and front of the waist band together in several places and suspend by two or three loops of tape or by



To Fold Napkins.



To Fold Table Linens.

selvages are even, and then stretch the cloth until the two hems are exactly even the entire width, when the cloth is folded in the center lengthwise. This is done by putting a hand on each edge at the selvage, and gently stretching the threads, taking the fullness up in the hands as you proceed to the center. Have the table ready, and everything needed at hand. Put a clean table against the ironing table, on the side opposite you. Unroll a portion of the tablecloth, lay smoothly on the table, folded once lengthwise and selvages to the right, and with a heavy, clean iron press hard on the right side, keeping the edges straight, and iron until nearly dry, but not entirely so, else the other side will become too dry. Proceed to the center, then turn the cloth around, so that it will lie on the extra table, and iron again to the center. If the cloth is kept perfectly straight as ironed, there will be no fullness when the center is reached. If there is fullness,

stretch and iron it out before beginning to iron the under half of the cloth. When one side is ironed, turn the cloth over and iron the other side in the same way, and so proceed until the cloth is dry. Table linen must be ironed dry in order to have it look well, and to prevent its mussing when laid away. The cloth is creased lengthwise, and, if desired, another crease may be ironed in at the center by putting the two ends together, but no more creases should be made. Simply fold the cloth and lay away. If the cloth is to be rolled, no second crease should be made, but when the cloth has been ironed on both sides until smooth and dry, it should be rolled on a roller made for the purpose, or on a roll made from paper. To make a paper roll, sheets of paper which will make a roll at least three inches longer than the width of the doubled cloth, and three inches in diameter should be used. Roll the paper just moderately tight, as the cloth rolls easier if the pad is not too hard. To roll a cloth, lay the paper roll on the end of the cloth next you on the table, see that it is even, and roll a little, smoothing with the iron in front of the roll, and frequently lifting the cloth, to avoid undue fullness and have straight when finished.

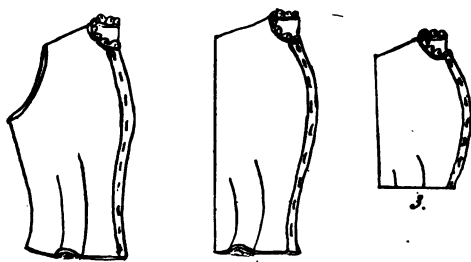
To Iron Napkins.

Napkins, like table linens, must be ironed while very damp. Take the roll of napkins from the basket, remove one and lay the rest in the basket again. Fold the selvages of the napkin together and stretch until perfectly straight. Spread out on the table, and with a heavy, hot iron press first on the right side, then on the wrong, until perfectly smooth, then double and see that the edges are straight, and iron a crease in the center, put the two hems together and iron another crease in, or simply double without creasing after the first fold. The fewer creases there are, the handsomer the napkin appears when used. Nap-

When the polishing iron is dirty, too cold, or not waxed, yellow streaks sometimes appear on the edges and higher surfaces of the work. If the work shows a streak of polish and a streak of dullness, rub a damp cheesecloth quickly over the surface, heat, wax, and wipe your iron, and try again. The iron has probably been too cool, or the ironer has not been able to give sufficient pressure and rapidity to the work. Perfection comes by practice here as well as elsewhere. Collars are curled after they are polished. This is done by holding one end of the collar while the other is skillfully pulled through under the iron.

Domestic or Dull Finish.

In commercial laundries a dull finish is obtained by simply adjusting the machine so that there will not be sufficient pressure and friction to give a polish, or a machine with well padded rolls is used, and run very slowly. To make a dull finish at home, rub a damp cloth over the highly polished shirt front, or pass it an instant over the steaming teakettle.

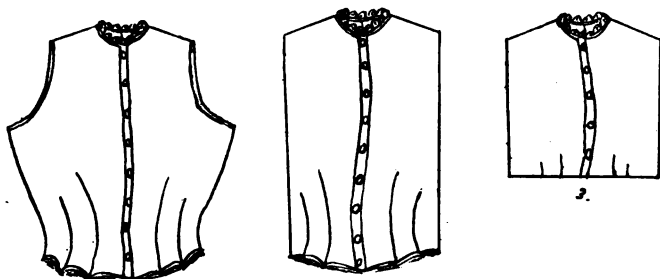


To Fold a Corset Cover—Side Fold.

To Fold a Corset Cover.

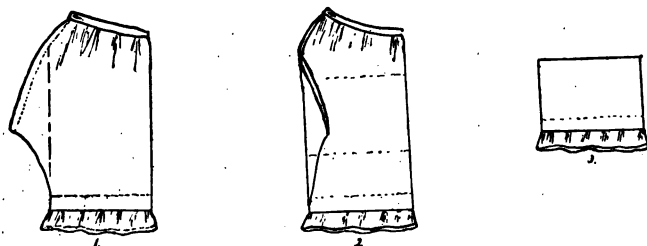
There are several ways in which corset covers may be folded, but the simplest ways are usually the best, as they require less time and leave fewer creases when the garment is ready to wear. To make a side fold, put the two fronts evenly together, button-hole side out, and pin

to keep in place, fold again at the underarm seam, and bring the center back seam even and parallel with the hems in front. Lay flat on the table, buttonhole side down, and fold the sides back even with the shoulder tip. Then fold the bottom up on the back, making the fold about one-third the length of the garment. To fold a corset



To Fold a Corset Cover—Front Fold.

cover with a full front, button down the front, let the hem lie on the back seam and secure with pins. Turn the garment over and fold each side back at the bottom to form a straight line, from the tip of the shoulder to the bottom of the garment, fold the bottom up about one-third the length of the back, and turn with the front side up.

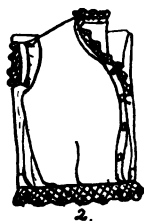
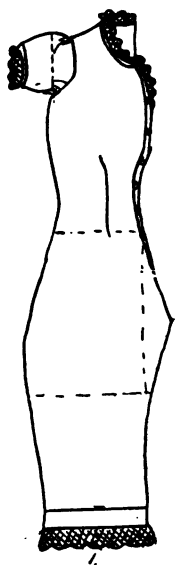


To Fold a Pair of Drawers.

To Fold a Pair of Drawers.

Place the two legs evenly together in every part. Fold the shaped part over, so that the garment will present a straight line from top to bottom, and fold in three or four

folds, beginning at the top, and leaving the trimming to show fully. If drawers are gathered into a band at the bottom, plait the uppers to the width of this band before folding.

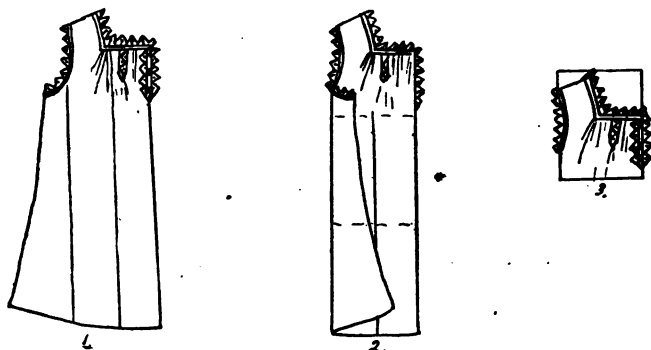


To Fold a Combination Suit.

To Fold a Combination Suit.

Put the shoulders together and the side seams together, and fold evenly to the bottom. The back is longer than the front, and must be so adjusted that it will lie as smoothly as possible. If the legs are gathered into bands at the bottom lay plaits up as far as the arm hole, that the width may be the same in all parts. Lay the suit on the table, buttonhole side up, and fold so that the shaped part will lie over on the under side, and there will be a straight line down the front from top to bottom. Fold the lower part of the leg up on the other part of the garment, so that the edge of the trimmings will lie a little below the

waist line. Turn the garment over, and fold the waist part back onto the upper part of the leg, letting the trimming on the bottom of leg show below the fold at the waist line. Double the sleeves back, so that the trimming only, will show.

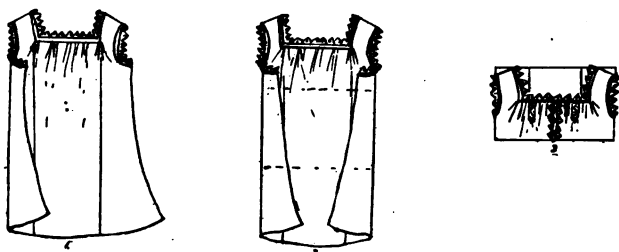


To Fold a Chemise—Side Fold.

To Fold a Chemise.

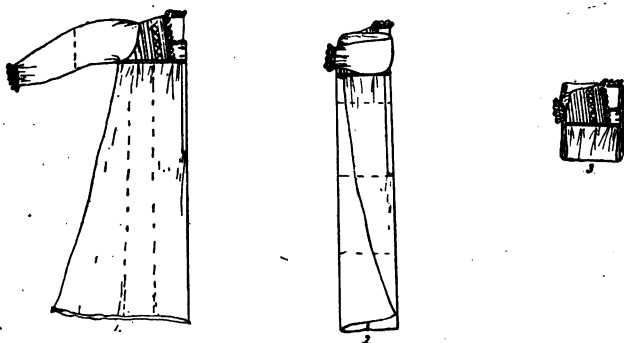
Lay the chemise on the table, front side down, and the neck to the left. Fold the shoulder seams together and the underarm seams evenly together, having the seams next you. Now place the left hand on the shoulder, and with the right hand pull the fullness in the skirt toward the front until there is a straight line from the shoulder tip to the bottom. Fold this in a plait in such a way as to leave the front fold parallel with the line from the shoulder tip to the bottom. Fold the shaped underarm portion over on the front. The appearance of the chemise is now oblong. Beginning at the bottom, fold three or four times, as desired.

To fold a chemise front fold, lay the chemise on the table, as before, place the hand on the shoulder tip, and pull the fullness towards the front. Treat both sides the same, then fold this fullness in a box plait, making the



To Fold a Chemise—Front Fold.

plait distinct at the bottom, and letting it run into the gathers at the top as it will. Now fold the shaped under-arm part towards the center, having straight lines from the shoulder tips to the bottom. Beginning at the bottom, fold three or four times; as in the side fold. This brings the front trimmed portion of the chemise outside.

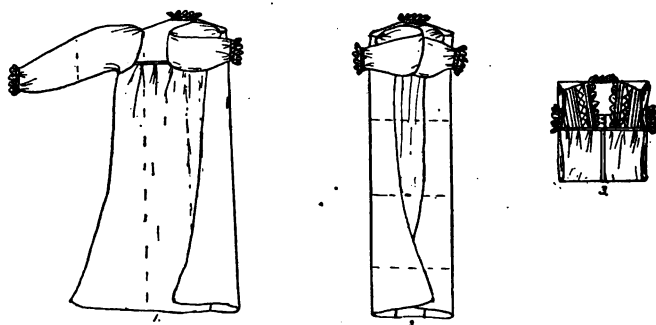


To Fold a Nightdress—Side Fold.

To Fold a Nightdress.

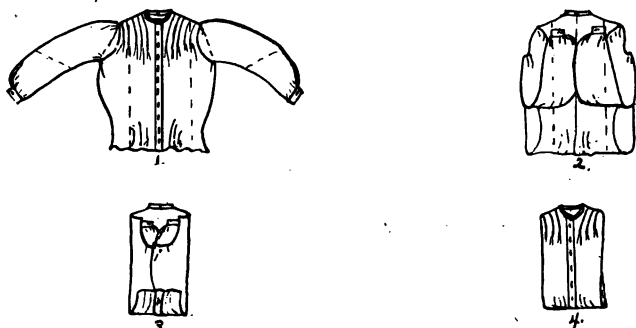
Lay the garment on the table folded smoothly just as it was when the sleeves were ironed, and plait in the fullness from the yoke down. Turn the outer edge or gored part of the nightdress back until the width is somewhat less than that from the armhole to the front, and is the same from top to bottom. Fold the sleeves back and forth on themselves on the button side of the nightdress, until

only an inch or two above the trimming shows. Beginning at the bottom, on the button side, fold the garment to a convenient size.



To Fold a Nightdress—Front Fold.

Another way is to fasten the nightdress down the front, and lay it flat on the table, back up. Lay the sleeves back at the shoulder, so that only inserting or tucks, and front trimming, of whatever kind, will show, and fold a plait of the same size to the bottom of gown. Then fold back on itself, beginning at the bottom, until the garment is of convenient size.

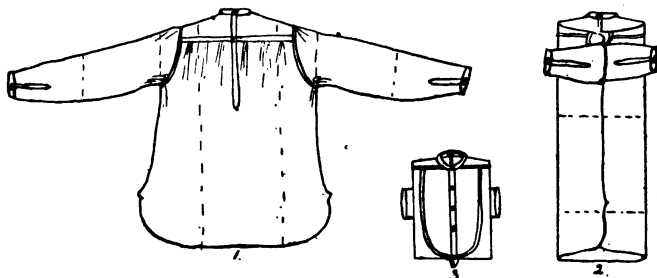


To Fold a Shirt Waist.

To Fold a Shirtwaist

Fasten the waist down the front, and fold the sleeves back along the line of the armhole as smoothly as possible,

then fold the sleeve in the center of its length, and turn the cuff towards the neck. See that the sleeve lies as smoothly as possible, and turn the waist back on it so that the sides will meet and can be pinned in the back, then turn the lower part of the waist up on the back about four inches, and pin. The cuffs may be laid far enough up to show at the neck if desired. A waist so folded will present a straight front about eight or nine inches in width.



To Fold a Shirt.

To Fold a Shirt.

Fold each sleeve over even with a line running across the top of the sleeve and through the armhole at the bottom, and lay it smooth on the back of shirt. Fold each side of the shirt back, doubling on a line parallel with the even edge of the bosom. Make the fold straight from top to bottom and fold the lower part of the sleeve back on this, allowing the cuff to project and show on the front side. Fold the bottom of the shirt up on the back one-third of the way. Then fold again, making the crease at the bottom of the bosom. Pin in place, and turn the shirt over.

CHAPTER VI.

LAUNDERING MISCELLANEOUS ARTICLES.

Babies' Clothes.

Whether robes, robe skirts, or little dresses, put to soak in tepid suds, the same as the rest of the clothes, but in a tub by themselves, and use borax instead of washing soda or washing powders, if some chemical must be used in the water, for stronger alkali may irritate the tender skin of a baby. When ready to wash wring them out of the water and wash in a clean suds, rubbing with the hands, as the board is likely to tear them. Give especial attention to dirty spots, and soap and wash in another suds if necessary before boiling. See that everything is well rinsed, as any soap left in will irritate if it touches the body, and starch just enough to iron well. Leave little shirts, etc., without starch.

To iron, use the skirt board, and pull out the scallops of lace and embroidery. If there is embroidery, put the skirt on the board wrong side out, and iron the embroidery, then turn right side out again. Iron the same as directed for ladies' petticoats, if a robe skirt. If a robe dress, iron the skirt portion in the same way. If the yoke has become dry while the skirt is being done, dampen with a wet cloth, and iron, ironing embroidery on the wrong side and tucks on the right, using the small end of the skirt board. Use a small iron to reach the places too small for a large one. A small roll of cloth may be used in ironing the sleeves, if the iron cannot be put inside. If there are ruffles down the front seams, take the garment off the board and iron these on the table, being careful not to crush the rest of it.

Rubber goods used in the nursery should be washed by

spreading on a table and washing with a cloth and soda water, then with a clean cloth and clear water. Hang in the air to dry.

Boys' Sailor Suits.

These are usually made of firm material, and, being rather stiff and close, require the use of a brush as well as the washboard. They are generally improved by boiling if there is no danger of the colors running. Starch slightly. They are too thick to need much starch. Hang in a clean place wrong side out, and where they will dry quickly. When ready to iron, turn the trousers wrong side out, and lay flat on the table, the band to the left, and the front up. They should be as damp as table linens when ironed. See that the iron is perfectly clean and hot, but not hot enough to burn the cloth. Iron the fronts of the legs quite smooth, but not perfectly dry, then turn and iron the back in the same way. Continue ironing first on one side and then on the other until both are smooth and dry. Iron bands and hems on both sides, and be sure that they are dry before you leave them. When ready to iron the blouse begin with the collar, and iron the wrong side for the same reason as in ironing prints. Next iron the sleeves, first the upper, then the under part. In ironing the body of the blouse, keep the neck to the left, commence with the part nearest you, and iron from top to bottom until finished; then iron the others in the same way, and at the last see that it is smooth at shoulders and armholes.

Clergymen's Bow Ties.

Examine them before washing to see how they should look when ironed. Wash them in perfectly clean water and put out to dry. When dry starch them, having the starch a little thicker than for ordinary muslins. Dry again, then dampen pretty wet, and when ready to iron

pull out straight with the fingers and lay smoothly on the ironing table, the length of the tie parallel to the front edge of the table. First iron it flat and on the right side until dry, then roll the edge opposite you over just a trifle, to resemble a seam, and press it flat. Next turn the ends in so as to make points of the proper size and shape. Then turn the two sides over so that they overlap a little in the center, the finished edge being uppermost, and press in that position. Fold, tie a string about the center and lay away.

Sunbonnets.

Remove the head piece, and wash the bonnet the same as prints. Starch all except the head piece while wet, but let that dry, and starch the same as collars, or dip in cold starch. If the head piece is of matting, lay on a board and wash with a brush, rinse well, and keep in shape while drying. If the sunbonnet cannot be taken apart, iron all the trimmings, straightening with the fingers to make them lie properly. Iron embroidery on the wrong side. Have the iron medium hot, and iron the bonnet on the right side, unless corded or made of embroidery. Press hard and iron dry. If it is full and lined, iron the lining first. Iron plain ruffles on the right side, and be careful not to crush one side while ironing the other. Iron the crown the same as a hat crown. Iron the muslin frill on the right side, and press the plaits into place. Goffer the ruffles by putting the bonnet on the ironing board or corner of the table, or, if you have a form, fasten it on that, and goffer each side without crushing the other. Use long goffering tongs for wide ruffles, and shorter ones for narrow ones.

Sun Hats.

Remove the drawstrings from sun hats, and wash the same as sunbonnets. If the hat is of corded material, iron

on the wrong side only. If the hat cannot be readily taken apart, pull the embroidery out with the fingers, and iron on the wrong side. Straighten the hat rim out, and iron that well on the wrong side if corded; otherwise, on the right side. Do not have the iron too hot, as you must iron slowly, and press hard. After the rim, iron the crown, the lining first. Double in the center, and iron one side at a time. Iron the outside in the same way. When done, put a cloth (several thicknesses) over a small basin, put the hat on it, dampen the crease, and iron under a cloth. Iron all parts until dry before leaving them.

Silk Gloves.

White and tan gloves, or any color which will not fade in water, may be cleansed satisfactorily by putting them on the hands, and washing in a suds made with soft water, mild soap and borax. Wash the gloves, rubbing each with the other as in washing the hands, rinse thoroughly and dry on the hands, first absorbing all moisture possible with a crash towel, and then clapping the hands in fresh air.

Ribbons.

Make a strong suds, using mild soap, soft water and borax. When ready, lay the ribbon on a clean, unvarnished wood table, and with a cloth or soft brush wash the ribbon on both sides until clean, then rinse thoroughly by moving about in clean warm water. Put, without wringing, on a clean portion of the table and rub with a brush or cloth until it adheres to the table. Leave thus until it dries. If this is properly done, no ironing will be necessary.

Fine Handkerchiefs.

Make a strong suds of neutral soap and rain water. Squeeze and knead between the hands until as clean as

possible. In case there is so much dirt present that the article must be rubbed, put it between heavier pieces of cloth and rub between the hands. Boil in clean suds, and **rinse well**. Handkerchiefs are not usually starched, but may be, and if so, rice starch is the best to use. When rinsed or starched, as the case may be, spread the handkerchief out smoothly on a clean window pane to dry or cover the ironing table with a strong, clean sheet, stretch and pin the handkerchiefs smooth and straight and leave until dry. Handkerchiefs composed of both lace and fine muslin should have the centers pinned out straight, and while this dries, the lace should be pulled out with the fingers. When dry, unpin, and iron both center and lace with a cool iron if desired. When the work is properly done, they look better without ironing.

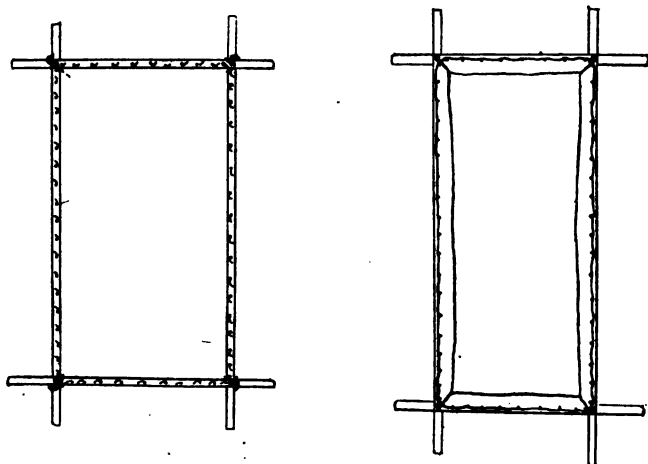
Lace Curtains.

Take the curtains down, gently shake out the dust, measure the length and breadth, and write it down. Then put the curtains to soak in a suds prepared the same as for white laces, and let soak half an hour or more. Handle gently, and knead and squeeze until the water is dirty, then put into another tub of water prepared in the same way. When cleaned, put into a cheesecloth bag, place in a clean, tepid suds, and boil a few minutes, remove, rinse the suds out in clear water, and rinse again, using bluing or not, as desired, if they are white, otherwise using a little saffron tea, coffee, or tea in the starch, according to the tint desired, as directed in laundering laces. Fold each curtain evenly, and wring in the wringer as dry as possible. Dip in the starch and squeeze out, or wring a little in the wringer. Have the frames set at the measures taken, and pin the curtains at each point. When curtains are of the same size, two pairs should be pinned down together. This saves time, and also ensures the curtains

being the same size. If more convenient, have sheets fastened to the carpet, and pin the curtains on these. In any case, they must be measured before wetting, to insure having them straight. If for any reason you cannot stretch them, iron them on the wrong side while still damp enough to smooth out, and make straight as possible. Let all necessary fullness come to the edge, as it will show less there than elsewhere. Ironing them flattens the pattern, and glosses the surface. It is also almost impossible to make them straight. Save the starch water; when the curtains are dry, unpin a small portion and examine it; if it is not as stiff as desired, pin again, and sponge the stretched curtains with the starch water and a clean white cloth and let dry.

Net curtains are very easily torn, and do not appear well when mended according to ordinary methods. To mend a tear in net curtains take a piece of net a little larger than the hole, and of the same mesh as the curtain. Wet it in cold starch, lay it on the ironing board, place the hole directly over it, iron until dry, when the two pieces of net will adhere very closely. This patch may be removed each time the curtain is washed, is very inconspicuous and will serve to prolong the usefulness of an old net curtain.

Curtain stretchers are very desirable, both because the work of pinning curtains to the carpet is tiresome, and because the curtains dry more rapidly when on frames, since the air can pass through them and the frames can be set outside if desired. Very convenient curtain stretchers may be purchased. These have small movable brass hooks for holding the curtains in place when stretched. A stretcher which will answer the purpose very well can easily be made at home by an ingenious boy. Frames like old-time quilting frames, fastened together with wooden pins which fit into holes bored in the side and end pieces,



Curtain Stretchers.

thus rendering it possible to lengthen or shorten them to suit different sized curtains, prove very satisfactory. A piece of strong muslin doubled so that the width will be four or five inches should be tacked to the under side of each piece of the frames. The corners of this muslin must be fastened together with safety pins when one is ready to use the frames. When ready to pin the curtains down, adjust the frames to suit their size, fasten the muslin on the ends and sides firmly and pin the curtains to it at each point. Another style of home made curtain stretcher consists simply of a frame, securely fastened at each of the four corners. The whole is then covered with a sheet of cheesecloth, tightly drawn and tacked underneath the frame. When ready to use it, mark with a pencil on the cheesecloth an oblong, the size of the curtain before washing; lay the curtains on this and pin at each point. The frames last described are especially desirable for delicate curtains which will scarcely bear their own weight.

Sash Curtains.

These should be laundered according to directions for fine muslins given on page 104.

Smocking.

Where a wash garment has smocking on it, iron the other portions first, then place on old, moderately hot iron, bottom upward, on several thicknesses of paper, hold the damp smocked portion of the garment firmly over it, moving it slowly over the surface of the iron until dry. If there is a heading, first iron it with a small iron.

Chamois Leather.

Wash the same as wool goods, except rub well. Pull into shape as it dries, and rub to keep it soft.

Chintz.

Wash the same as prints, and dry quickly. When dry, starch rather stiff, iron on the right side, and gloss somewhat.

Laces.

To clean lace put it into a strong suds made with castile soap and rain water, and set it in a sunny window a few hours. If the lace is much soiled add borax to the water, allowing one teaspoonful to each quart of water. Knead and squeeze the lace until clean, rinse well, stiffen slightly with rich starch, and pin down to dry. Lace handkerchiefs are nicest washed in this way, and pressed out smooth on a clean window pane to dry, instead of being ironed. If, after the above treatment, the lace has a soiled appearance, prepare another suds in the same manner as before, and in addition to the borax add one teaspoonful of turpentine. Let soak half an hour, then boil fifteen minutes in this same water, but put the lace in a cheese-cloth bag, or baste to a piece of muslin, and wind this smoothly about a bottle (this method is preferable if the

lace is tender, as it can be left on the muslin throughout the rest of the process and is less likely to be torn). If the perspiration stains still remain, bleach in the sun and dew. Lace should never be twisted in any way during the manipulation. Cream or ecru lace may be given the desired tint by using tinted starch, or by using in the starch coffee, tea, etc. Lace must on no account be made stiff, but should be slightly stiffened, as new lace is. It is sometimes more convenient to stiffen by dipping in water in which a little sugar has been dissolved (use a square of cut sugar to half a cup of water), or to use gum arabic water, but rice starch is best for general use. When gum arabic is used, dissolve half a teaspoonful in a cup of boiling water, and dip the dry lace in this.

There are cases where lace needs ironing. The ironing table should be prepared for laces the same as directed for doilies and embroidered linens. Pull each point of the lace out with the fingers, roll the lace up smoothly, and, when ready, unroll a little at a time, and carefully press on the wrong side. When through, take a pin or needle, and pull all the small points into their original form. Some fine laces with heavy patterns have the work brought out more fully by the use of a punching iron. Hand-made laces, such as crochet, tatting, etc., should be pinned out, special attention being given to each point, and left unironed, or merely pressed a little on the wrong side.

Old, Yellowed Laces.

Old laces which are yellow with age and too delicate to allow any rubbing may be cleansed and bleached by boiling in a strong suds made with paraffine soap, rinsing thoroughly, and smoothing out on a window to dry. The edges may be carefully picked out with a pin and pressed closely to the glass with the fingers.

Black Laces.

If it is merely desired to stiffen black lace, dip in sweet milk, and iron under a black cloth. To clean it, shake out all dust possible, then squeeze and punch in strong tea. To make the tea, use one teaspoonful of black tea (generous) to a cup of water, and steep ten minutes. Rinse in tea in the same way. To the rinsing tea add a teaspoonful of gum arabic and let stand until dissolved. Wring the lace dry as possible in the wringer, pull out, and iron between papers.

Another method is as follows: Put together one ounce each of camphor, borax, alcohol, and ammonia. Put one-third of a cup of this mixture into two-thirds of a cup of water, and squeeze the lace in it until clean, then rinse in rain water, stiffen with milk, and pin out straight.

Black lace may be cleaned in black coffee and ammonia also, but it should be rinsed in clear coffee afterwards if ammonia is used.

Embroideries.

Wash according to directions for fine muslins, given below, and iron in the same manner as embroidered linens.

Thin, Fine Muslins.

Prepare a clean suds, and soak the things in it for half an hour. Squeeze and rub gently with the hands only, until perfectly clean and white. Boil or not, as preferred, but, if boiled, they should be put into a bag, to avoid tearing in lifting. Rinse thoroughly and blue if desired, but use only a very little bluing. Dip in rice starch and dry just enough to iron smoothly. The old method was to clap thin muslins between the hands until they were dry enough to iron.

Make the rice starch for thin muslins as directed on page 58. The exact quantity to use cannot be definitely

stated, for starches vary in strength. Bought rice starch is sometimes adulterated with potato starch, and such starch is less strong than the genuine article. The goods should be of the same stiffness as when new. A few trials will enable one to determine the quantity necessary to produce this result.

When the article is partially dry remove it from the line, have the iron hot and iron it at once. Hang it up to air, keeping it straight and smooth; never fold it. Dotted Swiss should be ironed on the wrong side, in order to bring out the dots.

Chiffon.

Chiffon should be carefully washed by squeezing in a good suds made with a mild or neutral soap and rain water. When clean, it should be rinsed well, doubled evenly and smooth and put through the wringer. Lay on a towel, smooth with the hands, and when dried a little, iron on the right side.

White Silk.

Prepare a suds of tepid water and a mild soap. Wash through two or three waters if necessary to make it clean. Wash the same as wools, by squeezing and kneading between the hands. When ready to wring, squeeze the silk out, place between towels and run through the wringer. Never wring between the hands as this is likely to twist the threads, and may make them slip. If the silk is a tie with lining, baste the lining in place before washing, and after stretching it well remove the thread before ironing. Repeated washings in hot water is likely to make silk yellow, and imperfect rinsing makes it both yellow and harsh. In ironing silks, place a thin cloth over them, and iron a few strokes, then remove it and iron with the bare iron. If the surface of the silk is uneven, as in corded materials, iron wholly under a cloth to prevent glazing.

Raw Silk.

Make a strong suds with a mild soap and rain water. Have the suds tepid, and clean the silk by squeezing and kneading in the water in the same manner as in washing wools. When the silk is clean, rinse in clear water, and hang in a shady place where the wind blows, that it may dry as rapidly as possible. When dry enough to iron, take from the line and iron at once. Iron on the wrong side to avoid giving a shiny appearance. If such silk is allowed to dry and is afterward sprinkled and folded before ironing, it is likely to show spots after it is ironed.

Colored Silk.

Colored silks should be soaked a short time in salt water before washing, as this may help to prevent the colors running. Never let any silk lie wet, but finish up at once. If it is harsh when done, rinse again in clear water, rub in the hands to soften, and iron. Avoid a hot iron in ironing silks for the same reason as in ironing prints, and provide the ironing board with an extra covering as a protection if the colors run. Iron all colored silks on the wrong side.

Black Silk.

Cover a table with clean oil cloth. Lay the silk on this, a single thickness at a time, and sponge well with clear coffee. Lay between dry cloths and in a short time iron on the wrong side. A little borax or ammonia may be used in the water, but only a little, and the silk must be sponged with clear coffee afterwards.

Crepe.

Crepe should be cleaned the same as black silk, and stretched into shape while drying. It looks better unironed.

Flannelette.

Wash and iron the same as flannels, and, after ironing, brush the outside well with a stiff brush, to raise the nap as much as possible.

Dress Goods.

Delaines may be washed in rain water, by making a tepid suds with a neutral soap, squeezing to remove the dirt, and drying sufficiently for ironing, at once, in wind and shade. They should be ironed with a rather cool iron and on the wrong side. It is better, if the colors are delicate, to put borax in the water and use no soap.

Black Dress Goods.

Make a strong decoction with soap bark and rain water, steeping the same as tea; use with the tea strained from the bark, a sufficient amount of soft water to wash the goods well, then knead and squeeze them until clean and rinse in rain water; let dry just enough for ironing, and press on the wrong side. Potato water may be used instead of bark tea. To prepare the potato water, wash, pare, and grate three large potatoes for every gallon of rain water used in the washing. Wash the grated potato in the hands and strain through cheese cloth. Let the starch settle and pour the water off. Add more water and let settle. Repeat three times, and use all this water for washing the black goods; dry the starch, and use when needed in laundry work.

CHAPTER VII.

DRY CLEANING.

DIRECTIONS FOR USING CHEMICALS IN CLEANING CLOTHES.

So far as possible, do such work in pleasant weather and out of doors. At least do it in a well ventilated room, for otherwise the fumes may cause discomfort, if not harmful results. Never use a cleaning fluid about a fire or lamp, as almost all such things are very volatile, and there is danger of explosion. Always try the cleaning fluid on a scrap before applying to a garment, as it may injure the color. Always rub the spot to be removed from the outside to the center in order to avoid the appearance of a ring. Make a brush for applying the cleaner to things which require much rubbing, as coat collars, etc., by rolling up very closely a piece of extremely heavy cloth, about four inches wide, and long enough to make the roll nearly an inch in diameter.

MATERIALS COMMONLY USED IN CLEANING.

Among the liquid substances used in cleaning, where the soiled spots are caused by dust adhering to an oily or greasy spot, are alcohol, ether, benzine, turpentine and gasoline. Of these, gasoline is probably most generally used in home cleaning; first, because it is inexpensive; second, because it acts readily; third, because it evaporates quickly, and fourth, because it has not a specially tenacious odor. Turpentine is very effectual in removing paint stains and oily spots, but is more expensive than gasoline, and its odor is more lasting. Ether, alcohol and ammonia, mixed in equal parts and kept in a tightly corked bottle, constitute a good cleaning fluid if applied according to the directions given above.

Flour, meal, magnesia, french chalk and fuller's earth are among the more common dry materials used in cleaning.

To Clean with Gasoline.

Brush the article to be cleaned thoroughly, to remove all loose dust, and mark the especially soiled spots in order that they may be given particular attention in cleaning. It is better to immerse the whole garment in gasoline, than to attempt to remove the spots only, as a ring is very likely to appear about the spot in the latter case, unless extreme care is taken in rubbing from the outside to the center, and even this does not in all instances avail. Gasoline is more effective when warm than cold, and may safely be warmed by placing it in an open vessel, setting this into another larger vessel containing hot water and stirring with the hand, until it is warm. Always warm the gasoline out of doors, and in hot water, and do not fail to have it in an open vessel. Explosions are sure to result if the gasoline is brought in proximity to a flame or if it is warmed in a tightly closed vessel.

Place the warmed gasoline in a suitable vessel for cleaning, if not already in one, immerse the article in it, cover, and let stand for fifteen or twenty minutes. Then knead and punch the article about, squeeze out all the gasoline possible, put into another vessel containing fresh gasoline, and repeat the process until the gasoline no longer appears soiled. Unless the article is, thus thoroughly rinsed, it is likely to be cloudy, if not streaked and spotted. When thoroughly rinsed, shake the article out well, and hang it up in the air until the gasoline has evaporated. If the article is so rumpled as to need pressing, press it on the wrong side with a warm iron, using a damp cloth to moisten it a little. This should not be done, however, until the article has hung in the open air two

days or so and the gasoline has been thoroughly evaporated.

A mild soap may be used with gasoline in cleansing such fabrics as have fast colors. Prepared soaps can be procured for this purpose, and these are used according to the printed directions, some with, and some without water.

Gasoline after being once used, may be allowed to settle, be decanted, and corked up to use again, as may also benzine.

To Clean with Gasoline and Corn Meal or Flour.

Warm the gasoline according to directions previously given. Allowing one cup of corn meal or flour to a quart of gasoline, add this to the amount of gasoline necessary to cleanse the article. Put the article in this mixture, apply the meal or flour to it with the hands and rub. When every part of the article has been treated in this way squeeze the gasoline out of it, and rinse it well in a clean bath of gasoline only. Squeeze it out of this, hang it on the line to air, then when the gasoline is evaporated, beat or shake it to remove any meal or flour that may still cling to it.

When flour is used in cleaning a lined garment, particles of it will sometimes penetrate the fabric, and become lodged between the outside and lining. To remove these, beat the garment well in the open air. When at hand, white corn meal is preferable to flour for use in cleaning.

To Clean with Oxgall.

Add oxgall to the wash water, and proceed according to directions for washing the article in question. Oxgall is very valuable for cleaning delicate fabrics.

To Clean with Flour or Meal.

Rub the article well in flour or meal, shake out all possible, and air before putting away. Delicate articles, such as shawls, window curtains, etc., are often so cleaned. There is one objection to this method, however. That is, that it is very difficult to remove all the meal and flour, and hence, insects are likely to appear. Rice flour is the best to use on delicate fabrics, and it may be applied simply to the soiled spots.

To Clean with Magnesia.

Dampen magnesia with camphor, spread it over one-half of the article; lay the other half over this, and roll up. Let lie several hours or over night, rub gently between the hands and shake out. If it is not clean, repeat the process. Curtains which are not too badly soiled may be very satisfactorily cleaned in this way.

To Clean with Fuller's Earth.

Sprinkle the soiled parts with fuller's earth; roll up and leave, several days if necessary, until the grease or oil is absorbed, and the dust will fall out when the article is shaken and brushed. If the first application is not effective, try again.

Fuller's earth is sometimes moistened with turpentine or some liquid of that nature, but in case of colored materials it is safer not to use these as they are likely to injure the color.

To Clean Hats.

1. With lemon juice and sulphur. For straw braids and other similar materials you may use a paste made of powdered sulphur and lemon juice. Brush all loose dust from the hat, out of doors, then apply the sulphur paste with a clean brush, rubbing well into all parts. Have the brim of the hat lying flat on some clean surface, such as

an unvarnished table, while applying the paste; and have the crown supported by some form, such as a tin pail covered with a white cloth. Allow the hat to dry thoroughly; wash the brush, dry it,—then use it to remove all the sulphur possible from the hat.

2. With oxalic acid and sulphur. Make a strong solution of oxalic acid crystals, using hot water to dissolve them. Add to this enough sulphur to form a stiff paste. Apply in the same manner, and to the same kind of hats as the lemon juice and sulphur. Straws and braids cleaned with this paste are believed by some to turn yellow more quickly when exposed to the sunshine than do those cleaned in the lemon juice and sulphur paste. The oxalic acid is a little more active and would therefore be likely to have a more corrosive effect than the lemon juice.

3. With gasoline. Not alone straw hats, but panama, felt, etc., may be successfully cleaned with gasoline. Gasoline is simply a cleanser, however, and does not exert any bleaching effect on straws, as do the pastes previously mentioned. It is therefore more often used in case of winter hats. Apply it with a small brush continuing until the hat is perfectly clean. Castile soap may be used with the gasoline, but unless entirely rinsed out, the alkali is likely to affect the appearance of the article somewhat.

To Clean Glace Kid Gloves.

Put into a bowl one cup of white corn meal and moisten it thoroughly with gasoline. Have at hand another vessel containing enough gasoline to rinse the gloves in. Put the gloves on the hands and wash thoroughly in the first mixture, rubbing all parts well, then rinse thoroughly in the clear gasoline. Rub with a crash towel, to remove as much gasoline as possible and finish drying by clap-

ping the hands. As directed before, always perform such work in the open air, or at least in a well ventilated room where there is no fire or flame.

Either white or colored gloves may be successfully cleaned in this way, though some colors are rendered lighter by the process. No glove that is properly cleaned should appear streaked.

Gloves and ribbons, if only slightly soiled, may be cleaned by simply soaking them in gasoline in a closed vessel, occasionally shaking them, and lastly rinsing them well. This is the method that should be employed in cleaning silk gloves.

To Clean Suede Gloves.

To clean suede gloves put them on the hands, then rub them well with fuller's earth, applying it with a small brush—an old tooth brush will answer very well. Some prefer a mixture of fuller's earth and alum to the fuller's earth alone.

To Clean White Shoes.

Remove grass stains by rubbing them with a clean white cloth dipped in alcohol. Then after the shoes are dry, rub magnesia thoroughly into the muddy and soiled places, and leave it for an hour or so; then brush it out and the dirt will come with it.

To Clean Brown Shoes.

Wash the shoes with a cloth dipped in suds; rub until dry. Then with a woolen cloth, rub vaseline into every part. Polish by rubbing with a fresh woolen cloth. The best results are obtained by cleaning shoes while on the feet. This method not only keeps the shoes looking well, but also increases their wearing qualities.

To Remove Grease Spots.

1. With French chalk, magnesia or fuller's earth.

While the spots are perfectly fresh, lay them on a folded white cloth, cover with French chalk, magnesia or fuller's earth moistened with alcohol. Place at least two thicknesses of white cloth over this, above this lay a newspaper, and set a warm flat iron on top. Let set for several hours, then remove the coverings and brush out the cleanser. If the spots have not disappeared, repeat the operation.

2. With the blotting paper. While the spot is perfectly fresh, put a piece of white blotting paper both over and under it and iron. If the spot is not removed, take fresh pieces of blotter and repeat the process. Turpentine, chloroform, ether, etc., may be applied to the spot before placing the blotter over it, but in this case a cold rather than warm iron should be used to weight it down.

3. With benzine. Dip a clean cloth in benzine, and rub the spot, always rubbing from the outside toward the center.

To Remove Fresh Paint Stains from Unwashable Goods.

Wash the spot in kerosene, and hang the garment in the air until the kerosene evaporates or wash the injured spot in benzine or naphtha. These last two are very volatile, and extreme danger attends using them about a lamp or fire.

To Remove Dry Paint Stains from Unwashable Goods.

To remove dry paint stains from unwashable goods, saturate the spot with oil (if the colors in goods are delicate), let lie a short time, and clean with chloroform by dipping in the chloroform and then rubbing between the hands. Lastly, take a clean cloth wet in chloroform, and rub well from outside to center of spot, to prevent a ring. If the colors are not delicate, use turpentine instead of chloroform, and leave out the oil.

To Remove Grass Stains from Unwashable Goods.

Place the stained spot on a folded towel; saturate a cloth in alcohol and apply it to the spot, rubbing toward the center. Rinse in fresh alcohol.

To Freshen and Renew Velvet.

If soiled, clean it in gasoline by squeezing and punching it about, then rinse it in gasoline and hang it in the air to dry. Do not treat it further until the next day, or until the gasoline is entirely evaporated. Then heat as large an iron as you have, and place it face upward on something suitable for the purpose. Have at hand a bowl of water, a clean white cloth, and a medium stiff clothes brush. Dip the cloth in the water, wring medium dry, fold and lay two thicknesses over the iron. On this place the velvet, and the steam will cause the nap to rise. Brush lightly with the brush, always with the nap, and be careful not to brush too hard at the edges of the iron, or a crease or shiny place will appear on the velvet.

To Paon Velvet.

First treat the velvet as directed above. Then turn the velvet face downward, and draw it over the edge of the hot iron, covered as it is with a damp cloth. Be careful to draw the velvet across the iron in the same direction always.

To Renew Faded Chiffons, Veilings, Soft Silks, Ribbons, Plumes, Etc.

Dissolve in a cup or bowl of gasoline oil paint of a color to produce the shade you desire. When thoroughly dissolved, add this to a larger amount of gasoline. Test with a sample of the material to be treated, to see that it produces the desired shade; if not, strengthen or weaken the solution as necessary. Dip the article, immersing all parts at once, as far as possible, in order to prevent

spotting. Squeeze and knead until thoroughly saturated, then shake in the air until the gasoline is evaporated. Articles so treated require no pressing. A painstaking person may by this method tint a white chiffon hat without taking it apart.

To Sponge and Press Dress Goods.

Lay the cloth to be sponged on a table, being sure that it is perfectly smooth. Cover all over with a muslin cloth wrung from hot water. Roll on a stick carefully, allowing no folds in either goods or muslin. Lay away for one hour. Press on the wrong side with hot iron on a perfectly smooth ironing table. Never rub the iron across the goods, but always with the threads. It is well to press and sponge all goods before making it up as this both shrinks it, and prevents its spotting so readily.

To Clean Carpets with Sea Foam.

Make a preparation in the following manner: Dissolve one pound of finely cut castile soap in four quarts of hot water. Dissolve also one cup of powdered borax in one quart of boiling water; add to it two ounces of glycerine and stir well. When just tepid, add to this eight ounces of ammonia, two ounces of ether, and two ounces of alcohol. Combine this with the soap and water, put it in a jug and cork tightly. When using, rub the spots with a stiff brush dipped in the solution or, in the absence of a brush, take a corn cob. First wet a space about the spot with the solution to prevent making a dirty ring, and rub from the outside to the center, washing as thoroughly as possible.

